

## 3.3 Outputs

A total listing of 1428 **Outputs** under the Mining Program since 1996 is presented in this section. This listing includes the outputs that, when used and implemented by customers, led to Intermediate Impacts. The majority of outputs in the Mining Program are publications (84.1%), followed in smaller numbers by workshops, videos, and other output types.

At the end of this section is a series of tables and pie charts showing outputs broken down by strategic goal, year produced (1996 through 2005), and output types. There is also an explanation of how outputs are categorized.

### 1428 Outputs

Title	Year	Output Type	Strategic Goal
100 Years of Improvement in Aggregate Worker Safety Iannacchione-A; Mucho-T   Stone, Sand and Gravel Review 2003 Mar; :28-34	2003	Publication	Surveillance and training
60 Years of Rockbursting in the Coeur D'Alene District of Northern Idaho, USA: Lessons Learned and Remaining Issues Whyatt-J; Blake-W; Williams-T; White-B   Presentation at 109th Annual Exhibit and Meeting, Society for Mining, Metallurgy, and Exploration, Feb. 25-27, 2002, Phoenix, AZ. Preprint 02-164; :10 pp	2002	Publication	Ground control
A 20-Liter Furnace Test Method to Determine the Combustion Gas Toxicity of Conveyor Belts De Rosa-MI   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9626. NTIS stock number: PB96-202619, 1996	1996	Publication	Mine disasters
A Case Study Examining Cumulative Trauma Exposure of Coal Mine Workers Cornelius-KM; Turin-FC   In: Das B, Karwowski W, eds. Advances in Occupational Ergonomics and Safety II, IOS Press and Ohmsha: 1997; :569-572	1997	Publication	Cumulative injuries
A Case Study of Bolt Loads in a Trona Mine Retreat Section Signer-S; Rains-R   Roofbolting in Mining (Aachen, Germany, June 6-7, 2001). Aachen International Mining Symposia, Institut für Bergbaukunde I, Aachen, Germany, 2001 Jun; :481-494	2001	Publication	Ground control
A Case Study of Bolt Performance in a Two-entry Gate Road Signer-SP; Lewis-JL   17th Conference on Ground Control in Mining, West Virginia University, August, 1998; :249-256	1998	Publication	Ground control
A Case Study of Roof Bolting Tasks to Identify Cumulative Trauma Exposure Cornelius-KM; Turin-FC   Proc IIE Annual Research Conference, 2001 Institute of Industrial Engineers (CD-ROM)	2001	Publication	Cumulative injuries
A Checklist for Evaluating Cab Design of Construction Equipment Kittusamy-NK   Applied Occupational and Environmental Hygiene 18, 2003; :721-723	2003	Publication	Cumulative injuries
A Comparative Evaluation of the Differential-Pressure-Based Respirable Dust Dosimeter with the Personal Gravimetric Respirable Dust Sampler in Underground Coal Mines Ramani-RV; Mutmanský-JM; Honglin-H; Volkwein JC; Marple-VA; Olson-BA; Luna-PC   Proc Seventh Intl Mine Ventilation Congress. Krakow, Poland: Research and Development Center for Electrical Engineering and Automation in Mining - EMAG, 2001 Jan; :243-251	2001	Publication	Respiratory diseases

Title	Year	Output Type	Strategic Goal
<b>A Comparison of a Directional Spray System and a Flooded-Bed Scrubber for Controlling Respirable Dust Exposures and Face Gas Concentrations</b> Goodman-GVR; Pollock-DE; Beck-TW   In: Ganguli R, Bandopadhyay S, eds. Mine ventilation: Proceedings of the 10th U.S./North American Mine Ventilation Symposium (Anchorage, AK, May 16-19, 2004). Leiden, Netherlands: Balkema, 2004; :241-248	2004	Publication	Respiratory diseases
<b>A Comparison of Longwall &amp; Continuous Mining Safety in U.S. Coal Mines 1988-1997</b> Gallagher-S; Llewellyn-R; Mattos-J   Proceedings of Longwall USA International Exhibition & Conference, 1998 :91-101	1998	Publication	Surveillance and training
<b>A Compendium of NIOSH Mining Research 2000</b> NIOSH   NIOSH Publication No. 2000-109, 2000 Feb :1-75	2000	Publication	All
<b>A Compendium of NIOSH Mining Research 2001</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2001-114, 2001 Jan:1-68	2001	Publication	All
<b>A Compendium of NIOSH Mining Research 2002</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-110, 2001 Dec; :1-84	2001	Publication	All
<b>A Complexity Assessment Methodology for Programmable Electronic Mining Systems</b> Sammarco-JJ   Proc 20th Int System Safety Conf (Aug. 5-9, 2002; Denver, CO), 2002 Aug :177-186	2002	Publication	Traumatic injuries
<b>A Computer Software Program that Estimates Air Quantity Requirements in Large Opening Stone Mines</b> Robertson-SB; Grau-RH; Dolgos-JG; Mucho-TP   In: Ganguli R, Bandopadhyay S, eds. Mine ventilation: Proceedings of the 10th U.S./North American Mine Ventilation Symposium (Anchorage, Alaska, May 16-19, 2004). Leiden, Netherlands: Balkema, 2004 May; :363-369	2004	Publication	Mine disasters
<b>A Correlation Between Seismic Tomography, Seismic Events and Support Pressure</b> Westman-EC; Heasley-KA; Swanson-PL; Peterson-S   In: Elsworth D, Tinucci JP, Heasley KA, eds. Rock mechanics in the national interest, Proc 38th U.S. Rock Mechanics Symposium, Washington, DC, 2001 Jul; :319-326	2001	Publication	Ground control
<b>A Distinct Element Parametric Study of Failure Modes Around an Underground Opening in Rock Masses of Varying Quality</b> MacLaughlin-MM; Pakalnis-R; Brady-TM   American Rock Mechanics Association, 40th U.S. Symposium of Rock Mechanics, Anchorage, Alaska June 25-29, 2005, ARMA/USRMS 05-747	2005	Publication	Ground control
<b>A General Framework for Prioritizing Research To Reduce Injuries and Diseases in Mining</b> Levens-R   Human and Ecological Risk Assessment, Vol. 4, No. 6, 1998; :1285-1290	1998	Publication	Surveillance and training
<b>A GPS Based System for Minimizing Jolts to Heavy Equipment Operators</b> Miller-RE; Lowe-NT; Thompson-R   SAE Commercial Vehicle Engineering Congress and Exhibition, October 26-28, 2004, Chicago, IL. Warrendale, PA: Society of Automotive Engineers International, 2004 Oct; :1-4	2004	Publication	Cumulative injuries; Traumatic injuries
<b>A Guidance Sensor for Continuous Mine Haulage</b> Sammarco-JJ   Proc 1996 IEEE Industry Applications Society 31st Annual Meeting, Vol 4, 1996, San Diego, California, 1996; :2465-2472	1996	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>A Human Component to Consider in Your Emergency Management Plans: The Critical Incident Stress Factor</b> Kowalski-KM   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Aug; :3-8	1998	Publication	Mine disasters
<b>A Hybrid Statistical-Analytical Method for assessing Violent Failure in U.S. Coal Mines</b> Maleki-HM; Zahl-EG; Dunford-JP   Proc Second International Workshop on Coal Pillar Mechanics and Design. Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-114, IC 9448, :139-144	1999	Publication	Ground control
<b>A Method for Evaluating System Interactions in a Dynamic Work Environment</b> Steiner-LJ; Turin-FC; Cornelius-KM   Advances in Occupational Ergonomics and Safety II. Amsterdam, Netherlands: IOS Press and Ohmsha, 1997 Jan; :603-606	1997	Publication	Cumulative injuries
<b>A Method for Modeling Variation of In Situ Stress Related to Lithology</b> Whyatt-JK   In: Elsworth D, Tinucci JP, Heasley KA, eds. Rock Mechanics in the Public Interest. Proc 38th U.S. Rock Mechanics Symposium, DC Rocks, Vol. 2 (Washington, DC, July 7-10, 2001), Rotterdam: Balkema, 2001 Jul; :1087-1094	2001	Publication	Ground control
<b>A Method for the Selection of Rock Support Based on Bolt Loading Measurements</b> Signer-SP; Cox-DJ; Johnston-JL   Proceedings of the 16th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, West Virginia: West Virginia University, 1997; :183-190	1997	Publication	Ground control
<b>A Method for the Selection of Rock Support Based on Bolt Loading Measurements</b> Signer-SP; Cox-D; Johnston-JL   In: Broch E, Myrvang A, Stjern G, eds. Proceedings of the International Symposium on Rock Support: Applied Solutions for Underground Structures, 1997; :388-399	1997	Publication	Ground control
<b>A Method of Measuring Continuous Detonation Rates Using Off-the-Shelf Items</b> Santis-LD; Cortese-RA   In: Proceedings of the 22nd Annual Conference on Explosives and Blasting Technique. Orlando, FL: International Society of Explosive Engineers, 1996; :154-164	1996	Publication	Traumatic injuries
<b>A Miniature Data Acquisition System with LED Warning Lights</b> Sunderman-C; Signer-S; Johnson-J   In: R.K. Singhal, K. Fytas, and C. Chiwetelu, eds., Computer Applications in the Minerals Industries, Proceedings of the Fourth International Conference on Computer Applications in the Minerals Industries (CAMI 2003) (Sept 8-10, 2003; Calgary, AB), 2003 Sep	2003	Publication	Traumatic injuries
<b>A Model for the Structure of Round-Strand Wire Ropes</b> Wang-RC; McKewan-WM   Organisation Internationale pour l'Etude de l'Endurance des Cables (OIPEEC) (International Organization for the Study of the Endurance of Ropes) Bulletin 81. Reading, U.K.: Reading Rope Research, Department of Engineering, University of Reading, 2001 Jun; :15-42	2001	Publication	Traumatic injuries
<b>A Model Hearing Conservation Program for Coal Miners</b> Bise-CJ; Frank-T   Cincinnati, OH: Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Final Report.- Cooperative Agreement U60/CCU315855	2004	Publication	Hearing loss
<b>A New Look at the Uniaxial Compressive Strength of Coal</b> Mark-C; Barton-TM   In: Aubertin M, Hassani F, Mitri H, eds. Proceedings of the Second North American Rock Mechanics Symposium: NARMS '96. Montreal, Quebec, Canada, 1996; : 405-412	1996	Publication	Ground control
<b>A New Technology for Respirable Coal Mine Dust Measurement</b> Williams-KL; Vinson-RP   Appl Occupational and Environmental Hyg 11(7), 1996; :618-623	1996	Publication	Respiratory diseases

Title	Year	Output Type	Strategic Goal
<b>A Noise Control for Continuous Miners</b> Kovalchik-PG; Johnson-M; Burdisso-R; Duda-F; Durr-M   Tenth International Meeting on Low-Frequency Noise and Vibration and its Control (Sept. 11-13, 2002; York, United Kingdom)	2002	Publication	Hearing loss
<b>A Passive Means to Detect Hot Trolley Insulators</b> Yenchek-M; Hudson-A   Min Eng 2000 Jan; 52(1):43-47	2000	Publication	Traumatic injuries
<b>A PC Based Ergonomic Analysis Software Package for Underground Mining Equipment</b> Unger-RL   In: Thompson SD, Grayson RL, Wang YJ, eds. Proceedings of the Fifth Conference on the Use of Computers in the Coal Industry. Morgantown, WV: West Virginia University,1996; :83-91	1996	Publication	Cumulative injuries; Traumatic injuries
<b>A PC-Based Visibility Analysis Software Package for Underground Mining Equipment</b> Unger-RL   In: Dhar BB, Bhowmick BC, eds. Proceedings of the 27th International Conference of Safety in Mines Research Institutes. Vol. 2, New Delhi, India: Oxford & IBH Publishing Co. Pvt. Ltd., 1997; :983-993	1997	Publication	Cumulative injuries; Traumatic injuries
<b>A Performance Approach to Training Research</b> Vaught-C; Wiehagen-WJ; Barrett-EA; Brnich-MJ Jr.; Kowalski-KM; Mallett-L; Rethi-LL; Randolph-R   Proceedings of Minesafe International 2000 (Perth, Western Australia, September 3-8, 2000). Perth, Australia, 2000 Sep; :155-164	2000	Publication	Surveillance and training
<b>A Portable Spectro-Polarimetric Imager: Potential Mine Safety and Geologic Applications</b> Sabine-C; Denes-LJ; Gottlieb-M; Kaminsky-B; Metes-P; Maycrl-RT; Girard-JM   Proceedings of the Thirteenth International Conference, Applied Geologic Remote Sensing, Vancouver, British Columbia, Canada, 1-3 March 1999; 1:1190-1194	1999	Publication	Ground control
<b>A Profile of Workers' Experience and Preparedness in Responding to Underground Mine Fires</b> Vaught-C; Fotta-B; Wiehagen-WJ; Conti-RS; Fowkes-RS   Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, Report of Investigations 9584. NTIS stock number: PB96-147848, 1996	1996	Publication	Mine disasters
<b>A Project to Evaluate the Role Positive and Negative Emotion Plays in Promoting Hearing Conservation Behaviors Among Coal Miners</b> Witte-K; Vaught-C; Stephenson-M   Proceedings of the Sixth International Conference of the Scientific Committee on Education and Training in Occupational Health, 2002; :81-82	2002	Publication	Hearing loss
<b>A Radar-based Highwall Rib-Thickness Monitoring System</b> Mowrey-GL; Ganoe-CW; Monaghan-WD   Trans Soc Min Eng, Vol. 298,1996; :1865-1869	1996	Publication	Ground control
<b>A Review of Occupational Silica Exposures on Continuous Mining Operations</b> Goodman-GVR; Listak-JM; Organiscak-JA   Proc 31st Annual Inst Min Health Saf Research, Blacksburg, VA, Bockosh GR, Karmis M, Langton J, McCarter MK, Rowe B, eds., Virginia Polytechnic Institute and State University, Dept of Mining and Minerals Engineering, 2000 Jan; :105-113	2000	Publication	Respiratory diseases
<b>A Second-Generation Remote Optical Methanometer</b> Franks-RA; Opferman-JJ; Friel-GF; Edwards-JC   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 97-126, Report of Investigations 9640, 1997 May; :1-9	1997	Publication	Mine disasters
<b>A Second-Generation Remote Optical Methanometer</b> Franks-RA; Opferman-JJ; Friel-GF; Edwards-JC   In: Proceedings of the 43rd International Instrumentation Symposium. ISA, 1997; :527-536	1997	Publication	Mine disasters
<b>A Simulation Approach Analyzing Random Motion Events Between a Machine and its Operator</b> Ambrose-DH   In: Proceedings of the Digital Human Modeling for Design and Engineering Conference and Exposition, Dearborn, Michigan, June 6-8, 2000. Paper No. 2000-01-2160. Warrendale, PA: SAE International, 2000 Jun; :1-11	2000	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>A Sociotechnical Approach to the Unintended Consequences of Technical Design in Mining</b> Vaught-C; Wiehagen-WJ; Steiner-LJ; Cornelius-KM; Turin-FC; Mallett -LG, et al   In: Proceedings of the 28th International Conference of Safety in Mines Research Institutes (Sinaia, Romania), Vol. II, 1999; :687-697	1999	Publication	Surveillance and training
<b>A Sound Power Level Study of a Roof Bolter</b> Peterson-JS; Kovalchik-PG; Matetic-RJ   SME Preprint No. 05-72, 2005 SME Conference, Salt Lake City, Utah, 2005; :8 pp	2005	Publication	Hearing loss
<b>A Static Fatigue Constitutive Law for Joints in Weak Rock</b> Larson-MK   Proc Third Intl Conf on Mechanics of Jointed and Faulted Rock, Vienna, Austria; April 6-9, 1998; :171-177	1998	Publication	Ground control
<b>A Statistical Overview of Retreat Mining of Coal Pillars in the United States</b> Mark-C; McCall-FE; Pappas-DM   In: Peng SS, ed., Proceedings of the 16th International Conference on Ground Control in Mining, Morgantown, WV: West Virginia University; 204-210	1997	Publication	Ground control; Surveillance and training
<b>A Study of Burnout in Accident Investigators in the US Mining Industry</b> Kowalski-K; Podlesny-A   International Journal of Emergency Management 1(2), 2002 Jan; :155-169	2002	Publication	Mine disasters; Surveillance and training
<b>A Study of Heat Stress Exposures and Interventions for Mine Rescue Workers</b> Varley-F   Trans Soc Min Metal Explor 2004 Dec; 316:133-142	2004	Publication	Surveillance and training
<b>A Study of Heat Stress Exposures and Interventions for Mine Rescue Workers</b> Varley-F   2004 SME Annual Meeting (Feb 23-25, 2004; Denver, CO), Preprint No. 04-107. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004 Feb; :1-11	2004	Publication	Surveillance and training
<b>A Study of Logger Fatalities from 1992-2000</b> Scott-DF   Injury Prevention, vol. 10, 2004; :239-243	2004	Publication	Surveillance and training
<b>A Study of the Ground Control Effects of Mining Longwall Faces Into Open or Backfilled Entries</b> Oyler-DC; Mark-C; Dolinar-DR; Frith-RC   Geotech Geol Eng 2001 Jan; 19(2):137-168	2001	Publication	Ground control
<b>A Summary of Fatal Accidents Due to Flyrock and Lack of Blast Area Security in Surface Mining, 1989 to 1999</b> Bajpayee-TS; Rehak-TR; Mowrey-GL; Ingram-DK   Proc 28th Ann Conf Explos Blasting Tech, ISEE, Las Vegas, Nevada, February 10-13, 2002, 2002 Feb 2:105-118	2002	Publication	Traumatic injuries
<b>A Systematic Comparison of Different Seats on Shuttle Cars Used in Underground Coal Mines</b> Kittusamy-NK; Mayton-AG; Jobes-CC; Ambrose-DH   In: Proceedings of Inter-Noise 2003, the 32nd International Congress and Exposition on Noise Control Engineering (Seogwipo, Korea, Aug. 25-28, 2003). 2003 Aug; :2025-2032	2003	Publication	Cumulative injuries; Traumatic injuries
<b>A Systems Approach to the Socioeconomic Impacts of Workplace Injuries</b> Camm-T; Girard; Dwyer-J   In Working Partnerships: Applying Research to Practice. NORA Symposium 2003. Arlington, VA, June 23-24, 2003	2003	Publication	Surveillance and training
<b>A Technique For Measuring Toxic Gases Produced by Blasting Agents</b> Mainiero-RJ   Proc 23rd Annual Conference on Explosives and Blasting Technique. Cleveland, OH: International Society of Explosives Engineers, 1997 Jan; :595-604	1997	Publication	Traumatic injuries

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<b>A Unique Approach to Determining the Time-Dependent In Situ Strength of Coal Pillars</b> Biswas-K; Mark-C; Peng-SS   SME preprint 99B184. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc	1999	Publication	Ground control
<b>A Workplace Safety Device for Operators of Remote-Controlled Continuous Mining Machines</b> Schiffbauer-WH   American Journal of Indus Med, Vol 36, Sup 1, 1999 Sep; :69-71	1999	Publication	Traumatic injuries
<b>Acceleration and GPS Data Monitor Truck-Haulage Jolts</b> Miller-RE; Boman-P; Walden-J; Rhoades-S; Gibbs-R   Min Eng, 52(8):20-22	2000	Publication	Cumulative injuries; Traumatic injuries
<b>Accurate Navigation and Control of Continuous Mining Machines for Coal Mining</b> Schiffbauer-WH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSHss, DHHS (NIOSH) Publication No. 98-101, Report of Investigations 9642, 1997 Nov; :1-33	1997	Publication	Traumatic injuries
<b>Acoustical Considerations in the Design of Minerals Processing Plants</b> Burks-JA; Rider-JP; Cecala-AB   In: Proceedings of the 1998 National Conference on Noise Control Engineering (Noise-Con 98), 1998; :443-448	1998	Publication	Hearing loss; Respiratory diseases
<b>Active Proximity Warning Systems for Surface and Underground Mining Applications</b> Schiffbauer-WH   Min Eng 54(12):40-48	2002	Publication	Traumatic injuries
<b>Addressing Small Mine Issues in the NIOSH Mine Safety and Health Research Program</b> Grayson-RL   In: Proceedings of the Third Health and Safety Seminar for Small Mines (Somerset, PA). University Park, PA: The Pennsylvania State University, 1998	1998	Publication	Surveillance and training
<b>Addressing the Safety of Programmable Electronic Mining Systems: Lessons Learned</b> Sammarco-JJ   Proc 2002 IEEE 37th Industry Applications Society Ann Meet, Pittsburgh, Pennsylvania, 2003 :692-698	2003	Publication	Traumatic injuries
<b>Administrative Controls for Reducing Worker Noise Exposures</b> Bauer-ER; Babich-DR   SME preprint 04-09. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004; :1-9	2004	Publication	Hearing loss
<b>Advance and Relieve Mining: A Method to Mitigate the Effects of High Horizontal Stress on the Mine Roof</b> Dolinar-DR; Mucho-TP; Oyler-DC; Pablic-J   SME, Inc., Preprint 01-113, SME Annual Meeting, Denver, Colorado - February 26-28, 2001; :1-12	2001	Publication	Ground control
<b>Advances in Proximity Detection Technologies for Surface Mining Equipment</b> Ruff-TM   34th Ann Institute on Mining Health, Safety and Research, Salt Lake City, UT, May 25, 2004; :8 pp	2004	Publication	Traumatic injuries
<b>Advances in Remote Sensing Techniques for Monitoring Rock Falls and Slope Failures</b> Girard-JM; Mayerle-RT; McHugh-EL   Proc 17th Intl Conference on Ground Control in Mining, 1998 Aug :326-331	1998	Publication	Ground control
<b>Airborne Dust Liberation During Coal Crushing</b> Organiscak-JA; Page-SJ   Coal Prep, 2001 Jun 21:423-453	2001	Publication	Respiratory diseases
<b>Alarm System for Detecting Hazards Due to Power Transmission Lines</b> Sacks-HK; Yenchek-MR; Homce-GT; Cawley-JC   U.S Patent #6,600,426 (granted July 29, 2003)	2003	Patent	Traumatic injuries

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<b>Alternative Methodologies for Evaluating Explosion-resistant Mine Ventilation Seals</b> Sapko-MJ; Weiss-ES; Harteis-SP   In Proceedings of the 30th International Conference of Safety in Mines Research Institutes. Johannesburg, Republic of South Africa: South African Institute of Mining and Metallurgy, 2003 Oct; :615-640	2003	Publication	Mine disasters
<b>An Active Proximity Warning System for Surface and Underground Mining Applications</b> Schiffbauer-WH   SME Annual Meeting (Denver, CO; Feb 26-28, 2001), Preprint No. 01-117, SME, Inc., 2001 Feb; :1-8	2001	Publication	Traumatic injuries
<b>An Alarm to Warn of Overhead Power Line Contact by Mobile Equipment</b> Homce-GT; Cawley-JC; Yenchek-MR; Sacks-HK   Conference Record of the 2001 IEEE Industry Applications Conference, 36th IAS Annual Meeting (Chicago, Illinois, September 30-October 4, 2001); :8 pp	2001	Publication	Traumatic injuries
<b>An Analysis and Prevention of Flyrock Accidents in Surface Blasting Operations</b> Bajpayee-TS; Verakis-HC; Lobb-TE   Proc 30th Ann Conf Explos Blasting Tech, New Orleans, LA, February 1-4, 2004, 2004 Feb; :1-10	2004	Publication	Traumatic injuries
<b>An Analysis of Rock Failure Around a Deep Longwall Using Microseismics</b> Heasley-KA; Ellenberger-JL; Jeran-PW   20th Intl Conf on Ground Control in Mining, Morgantown, WV: West Virginia University, 2001 Aug; :280-286	2001	Publication	Ground control
<b>An Analysis of Serious Injuries to Dozer Operators in the U.S. Mining Industry</b> Wiehagen-WJ; Mayton-AG; Jaspal-JS; Turin-FC   NIOSH Publication No. 2001-126, IC 9455, 2001 Apr :1-23	2001	Publication	Surveillance and training; Traumatic injuries
<b>An Approach to Identify Jobs for Ergonomic Analysis</b> Cornelius-KM; Turin-FC; Wiehagen-WJ; Gallagher-S   Proceedings of the IIE 10th Annual Research Conference, Norcross, GA, 2001; :1-5	2001	Publication	Cumulative injuries
<b>An Approach to Identifying Geological Properties from Roof Bolter Drilling Parameters</b> Finfinger-GL; Peng-SS; Gu-Q; Wilson-G; Thomas-B   Proc 19th Intl Conf on Ground Control in Mining, 2000, Peng-SS, Mark-C, eds. Morgantown, WV: West Virginia University, 2000; :1-11	2000	Publication	Ground control
<b>An Assessment of Occupational Silica Exposures on Continuous Mining Operations</b> Goodman GVR, Listak J, Organiscak JA   SME Trans, Vol. 310. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2001	2001	Publication	Respiratory diseases
<b>An Electromagnetic Spatial/Spectral Sensor for Geological Measurements</b> Chufo-RL   Proc Sixth International Conference on Ground Penetrating Radar 1996 Sep 30 - Oct 3 Sendai, Japan Tohoku University, Dept. of Geoscience and Technology, 1996; :545-547	1996	Publication	Ground control
<b>An Emissions-Assisted Maintenance Procedure for Diesel-Powered Equipment</b> Schnakenberg-G   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/diesel/eamp/eamp.htm">http://www.cdc.gov/niosh/mining/topics/diesel/eamp/eamp.htm</a>	1997	Web document	Respiratory diseases
<b>An Environmentally Robust Proximity Warning System for Hazardous Areas</b> Schiffbauer-WH; Mowrey-GL   in: Proceedings of the ISA Emerging Technologies Conference. Research, 2001, Triangle Park, North Carolina, Instrumentation, Systems, and Automation Society, Paper No. 2091; 2001; :10 pp	2001	Publication	Traumatic injuries



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<b>An Ergonomic Evaluation of Excavating Operations: A Pilot Study</b> Kittasamy-NK; Buchholz-B   Applied Occupational and Environmental Hygiene, vol. 16, no. 7, 2001; :723-726	2001	Publication	Cumulative injuries
<b>An Evaluation of Cab Filtration and Pressurization Systems: Two Case Studies</b> Chekan-GJ; Cecala-AB; Colinet-JF   In: Proceedings of the Environment, Safety & Health Forum and Expo (Phoenix, AZ, Sept. 22-24, 2003). Alexandria, VA: National Stone, Sand & Gravel Association, 2003; :114-129	2003	Publication	Respiratory diseases
<b>An Evaluation of Methods for Controlling Silica Dust Exposures on Roof Bolters</b> Goodman-GVR; Organiscak-JA   2002 SME Annual Meeting, Feb 25-27, Phoenix, Arizona, preprint 02-163. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2002 Feb; :1-5	2002	Publication	Respiratory diseases
<b>An Evaluation of Methods for Controlling Silica Dust Exposures on Roof Bolters</b> Goodman-GVR; Organiscak-JA   SME Transactions, Vol. 312, Society for Mining, Metallurgy, and Exploration, Inc., Littleton, CO, 2002; :133-137	2002	Publication	Respiratory diseases
<b>An Evaluation of Strata Behavior and Tailgate Support Performance of Eagle Nest Mine</b> Mucho-TP; Compton-CS; Oyler-DC; Zelanko-JC; Horvath-S   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :523-526	1996	Publication	Ground control
<b>An Examination of the Loyalhanna Limestone's Structural Features and their Impact on Mining and Ground Control Practices</b> Iannacchione-AT; Coyle-PA   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :218-227	2002	Publication	Ground control
<b>An Experimental Study of the Relationship Between Bearing Vibrations and Deterioration of Induction Machine Stator Windings</b> Trutt-FC; Kohler-JL; Sottile-J   In: Proceedings of the 26th National Technical Training Symposium of the Vibration Institute (Pittsburgh, PA), 2002; :135-141	2002	Publication	Traumatic injuries
<b>An Instrumented Cable</b> Martin-L   Sensors, The Journal of Applied Sensor Technology, 1999 Apr; :1 p	1999	Publication	Ground control
<b>An Investigation of Longwall Gob Gas Behavior and Control Methods</b> Schatzel-SJ; Diamond-WP; Garcia-F; Mucho-TP; LaScola-JC; McCall-FE; Jeran-PW   In: Tien JC, ed. Proceedings of the Eighth U.S. Mine Ventilation Symposium, Rolla, MO: University of Missouri-Rolla Press, 1999; :43-51	1999	Publication	Mine disasters
<b>An Oral History Analysis of Mine Emergency Response</b> Vaught-C; Brnich-MJ; Mallett-LG   NIOSH Publication No. 2004-145, IC 9471, 2004 Apr :1-77	2004	Publication	Mine disasters
<b>An Ounce of Prevention: Training Workers to Prevent a Crisis</b> Mallett-L; Brnich-MJ, Jr; Vaught-C   Proc Contingency Planning & Management Conference (CPM '99). Flemington, New Jersey, Witter Publishing Corp., 1999 Apr; :21-27	1999	Publication	Surveillance and training
<b>An Overview of Geomechanics Safety Research on Mobile Roof Supports</b> Maleki-H; Owens-J   System Safety at the Dawn of a New Millennium. Proceedings, 17th International System Safety Conference, Orlando, FL, Aug 16-21, 1999. Unionville, VA: System Safety Society, 1999 Jan; :554-563	1999	Publication	Ground control
<b>An Overview of Groundfall Injuries and Worker Activity in Underground Stone Mines</b> Pappas-DM; Prosser-LJ Jr   MSHA Holmes Safety Association Bulletin, 2001 Aug:8-14	2001	Publication	Ground control



Title	Year	Output Type	Strategic Goal
<b>An Overview of Research Experience as it Relates to Shearer Dust Control in the United States</b> Jankowski-RA; Organiscak-JA   In: Proceedings of the International Scientific and Technical Conference on Respirable Dust Hazard Control in the World Mining Industry. Szczyrk, Poland, 1996; :5-10	1996	Publication	Respiratory diseases
<b>An Overview of Standing Roof Support Practices and Developments in the United States</b> Barczak-TM   Proceedings of the Third South African Rock Engineering Symposium, Johannesburg, Republic of South Africa: South African Institute of Mining and Metallurgy, October 10-12, 2005; :301-334	2005	Publication	Ground control
<b>An Overview of Technology and Training Simulations for Mine Rescue Teams</b> Conti-RS; Chasko-LL; Cool-JD   Proceedings of the 28th International Conference of Safety in Mines Research Institutes (Jun 7-11, 1999; Sinaia, Romania), Vol. II; :521-538	1999	Publication	Mine disasters
<b>An Overview of the Evaluation Process for Mine Trainers</b> Mallett-L; Reinke-D   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :13-17	2002	Publication	Surveillance and training
<b>An Underground Coal Mine Fire Preparedness and Response Checklist: The Instrument</b> Conti-RS; Chasko-LL; Lazzara-CP; Braselton-G   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 2000-144, IC 9452, 2000 Aug; :151 pp	2000	Publication	Mine disasters
<b>An Update on Face Ventilation Research for Improved Longwall Dust Control</b> Jankowski-RA; Colinet-JF   SME preprint 98-82. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1998	1998	Publication	Respiratory diseases
<b>Analyses of Mobile Equipment Fires for All U.S. Surface and Underground Coal and Metal/Nonmetal Mining Categories, 1990-1999</b> De Rosa-MI   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-105, IC 9467, 2004 Jan; :1-53	2004	Publication	Mine disasters; Surveillance and training
<b>Analysis and Design of Rib Support (ADRS): A Rib Support Design Methodology for Australian Collieries</b> Colwell-M; Mark-C   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 24th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2005; :12-22	2005	Publication	Ground control
<b>Analysis and Prediction of Longwall Methane Emissions: A Case Study in the Pocahontas No. 3 Coalbed, VA</b> Diamond-WP; Garcia-F; Aul-GN; Ray-RE   In: Ramani RV, ed. Proceedings of the 6th International Mine Ventilation Congress, Chapter 35. Society for Mining, Metallurgy, and Exploration, Inc.: Littleton, CO, 1997; :223-229	1997	Publication	Mine disasters
<b>Analysis of Bench Crest Performance at the Yellowstone Mine: A Case Study</b> Whyatt-J; McLaughlin-M; Miller-S   Proceedings of the 39th Symposium on Engineering Geology and Geotechnical Engineering: Research to Practice, May 18-19, 2004. M. McLaughlin and R. McNearny, eds., Butte, MT: Montana Tech of the University of Montana, 2004 May; :149-163	2004	Publication	Ground control
<b>Analysis of Extensometer Data from a Room Widening Experiment Designed to Induce a Roof Fall</b> Dolinar-DR; Oyle-DC; Compton-CS   In: Peng SS, ed. Proceedings of the 16th International Conference on Ground Control in Mining, Morgantown, WV: West Virginia University, 1997; :289-295	1997	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Analysis of Highwall Mining Stability - The Effect of Multiple Seams and Prior Auger Mining on Design</b> Newman-D; Zipf-RK   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 24th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :208-217	2005	Publication	Ground control
<b>Analysis of Mine Fires for All U.S. Metal/Nonmetal Mining Categories, 1990-2001</b> De Rosa-MI   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-105, IC 9476, 2004 Nov; :1-52	2004	Publication	Mine disasters
<b>Analysis of Mine Fires for All U.S. Underground and Surface Coal Mining Categories: 1990-1999</b> De Rosa-MI   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health , DHHS (NIOSH) Publication No. 2004-167, 2004 Sep; IC 9470; :1-36	2004	Publication	Mine disasters
<b>Analysis of Non-Fatal and Fatal Injury Rates for Mine Operator and Contractor Employees and the Influence of Work Location</b> Karra-VK   Journal of Safety Research, Vol 36 No 5; :413-421	2005	Publication	Cumulative injuries; Surveillance and training; Traumatic injuries
<b>Analysis of Pillar Design Practices and Techniques for U.S. Limestone Mines</b> Iannacchione-AT   In Trans Inst Min Metall, (Sec A: Mining Industry), 1999 Dec 108(Sept-Dec):A152-A160	1999	Publication	Ground control
<b>Analysis of Practical Ground Control Issues in Highwall Mining</b> Zipf Jr-RK; Bhatt-SK   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining. Morgantown, WV, August 3-5, 2004: West Virginia University, 2004 Aug; :210-219	2004	Publication	Ground control
<b>Analysis of Roof Bolt Systems</b> Mark-C; Molinda-GM; Dolinar-DR   20th Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :218-225	2001	Publication	Ground control
<b>Analysis of Safety Aspects and Mining Practices for Effective Ground Control in Surface Mining</b> Bhatt-SK; Mark-C   Proc 19th Intl Conf on Ground Control in Mining, Peng SS, Mark C, eds., 2000, Morgantown, WV, 2000 Aug :395-404	2000	Publication	Ground control
<b>Analysis of Sampling Line Bias on Respirable Mass Measurement</b> Peters-TM; Volkwein-JC   Appl Occup Environ Hyg 18(6); :458-465	2003	Publication	Respiratory diseases
<b>Analysis of the Interaction Between Mobile Roof Supports and Mine Strata</b> Maleki-H; Owens-J   Design and Construction in Mining, Petroleum and Civil Engineering, 1998, Nov :287-293	1998	Publication	Ground control
<b>Anchorage Pull Testing for Fully Grouted Roof Bolts</b> Mark-C; Compton-CS; Oyler-DC; Dolinar-DR   Proc 21st Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :105-113	2002	Publication	Ground control
<b>Apparatus and Method for Generating Power Onboard a Hoist Conveyance</b> Beus-MJ; Sunderman-C; Rains-R; Lazenga-N   U.S. Patent # 6626267 (granted Sept. 2003)	2003	Patent	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Application of Computational and Statistical Techniques to an Evaluation of Mobile Roof Supports</b> Maleki-H; Owens-J   In: S.S. Desai, T. Kundu, S. Hatpalani, D. Contractor, and J. Kemeny, eds. Computer Methods and Advances in Geomechanics. Proceedings of the Tenth International Conference on Computer Methods and Advances in Geomechanics (Jan 7-12, 2001; Tucson, AZ), Vol. 2, 2001; :1705-1711	2001	Publication	Ground control
<b>Application of Computers and Operations Research in the Mineral Industry: Proceedings of the 32nd International Symposium on the Application of Computers and Operations Research in the Mineral Industry</b> Dessureault-S; Kecojovic-V, Ganguli-R; Dwyer-J (eds.)   Tucson, USA, 30 March-1 April, 2005. A.A. Balkema Publishers; 648 pp.	2005	Publication	Surveillance and training
<b>Application of Field Measurements and Computer Modeling to Evaluate Deep Mine Shaft Stability in Northern Idaho</b> Beus-MJ; Orr-TJ; Whyarr-JK   Spokane, WA: U.S. Department of the Interior, Bureau of Mines, Report of Investigations 9600. NTIS stock number: PB96-140181, 1996	1996	Publication	Ground control; Traumatic injuries
<b>Application of Ground Penetrating Radar to Assess Ground Control Problems in Two Underground Limestone Mines</b> Trevits-MA; Monaghan-WD; Mucho-TP   In: Proceedings of the Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP 2004). Denver, CO: Environmental and Engineering Geophysical Society 2004; :788-805	2004	Publication	Ground control
<b>Application of Ground Penetrating Radar to Evaluate the Extent of Polyurethane Grout Infiltration for Mine Roof Control: A Case Study</b> Monaghan-WD; Trevits-MA   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :197-204	2004	Publication	Ground control
<b>Application of Numerical Models to Investigate Permeability Changes and Gas Emissions Around Longwall Mining Panels</b> Esterhuizen-G; Karacan-CO   Proceedings of the 40th US Rock Mechanics Symposium (Anchorage, Alaska), CD-ROM, paper 05-744; :13 pp	2005	Publication	Mine disasters
<b>Application of Online Voltage Mismatch Condition Monitoring of Induction Motor Stator Windings in a Mining Environment</b> Sottile-J; Trutt-F; Kohler-JL   In: Proceedings of the 38th Annual IEEE - IAS Meeting, October 13-17, Salt Lake City, UT, 2003, 2003; :1637-1644	2003	Publication	Traumatic injuries
<b>Application of Particle Flow Code To Evaluate a Concept for Detecting Hazardous Voids in Surge Piles Using Profile Scanning</b> Larson-MK; Iverson-SR   In: D. Elsworth, J.P. Tinnucci, and K.A. Heasley, eds. Rock Mechanics in the Public Interest. Proceedings of the 38th U.S. Rock Mechanics Symposium, DC Rocks, Vol 1, (July 7-10, 2001; Washington, DC), Balkema, 2001 Jul; :459-465	2001	Publication	Ground control
<b>Application of Physical Modelling and Particle Flow Analysis to Evaluate Ore-pass Design</b> Beus-MJ; Iverson-S; Stewart-B   Inst Min Metall, Trans, Sect A: Min Ind, 1998 Sep 106():A110-A117	1997	Publication	Ground control; Traumatic injuries
<b>Application of Radar To Detect Pedestrian Workers Near Mining Equipment</b> Ruff-TM   Applied Occupational and Environmental Hygiene, 16(8), 2001; :798-808	2001	Publication	Traumatic injuries
<b>Application of Radio-Frequency Identification Systems to Collision Avoidance in Metal/Nonmetal Mines</b> Ruff-TM; Hession-Kunz-D   IEEE Transactions on Industry Applications, 37(1), 2001; :112-116	2001	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Application of Seismic Tomography in Underground Mining</b> Scott-DF; Williams-TJ; Friedel-MJ   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1995; :647-659	1996	Publication	Ground control
<b>Application of the Coal Mine Roof Rating (CMRR) to Extended Cuts</b> Mark-C   SME preprint 98-190. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1998	1998	Publication	Ground control
<b>Application of the Coal Mine Roof Rating (CMRR) to Extended Cuts</b> Mark-C   Min Eng 51(4); :52-56	1999	Publication	Ground control
<b>Application of Tomographic Imaging to Stability Assessment</b> Maleki-H; Johnston-JL   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :369-383	1996	Publication	Ground control
<b>Applications of Ground-Based Radar to Mine Slope Monitoring</b> McHugh-EL; Long-DG; Sabine-C   Presentation at annual conference of American Society for Photogrammetry and Remote Sensing, Denver, May 23-28, 2004; :12 pp	2004	Publication	Ground control
<b>Applications of the Point Estimation Method for Stochastic Rock Slope Engineering</b> Miller-S; Whyatt-J; McHugh-E   Gulf Rocks 2004: Proceedings, Rock Mechanics Across Borders & Disciplines, 6th North American Rock Mechanics Conference, June 5-10, 2004, Houston, Texas. Report No. ARMA/NARMS 04-517. Alexandria, VA: American Rock Mechanics Association, 2004 Jun; :1-12	2004	Publication	Ground control
<b>Are You Operating an Air Rotary Drilling Rig? Is It Loud?</b> Ingram-DK; Matetic-RJ   Water Well Journal, 57(7), 2003; :18-22	2003	Publication	Hearing loss
<b>Assessing and Monitoring Open Pit Mine Highwalls</b> Girard-JM	2001	Publication	Ground control
<b>Assessing Mercury Health Effects in Gold Workers Near El Callao, Venezuela</b> Rojas-M; Drake-PL; Roberts-SM   Journal of Occupational and Environmental Medicine, vol. 43, no. 2, 2001; :158-165	2001	Publication	Surveillance and training
<b>Assessment of Ergonomic Risk Factors Among Operators of Heavy Earthmoving Machinery</b> Kittusamy-NK   In: Proceedings of the 2003 ASSE Professional Development Conference (Denver, CO, June 22-26, 2003), American Society of Safety Engineers, 2003 Jun; :11 pp	2003	Publication	Cumulative injuries
<b>Assessment of Noise Controls Commonly Used on Jumbo Drills and Bolters in Western Underground Metal Mines</b> Reeves-ER   SME preprint 04-112. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc.; :7 pp	2004	Publication	Hearing loss
<b>Assessment of Noise Controls Commonly Used on Jumbo Drills and Bolters in Western United States Underground Metal Mines</b> Reeves-ER   Min Eng 57(1), 2005; :41-47	2005	Publication	Hearing loss
<b>Assessment of Respirable Quartz Dust Exposures at Roof Bolters In Underground Coal Mining</b> Goodman-GVR; Organiscak-JA   Journal of the Mine Ventilation Society S Afr 56(2), 2003; :50-54	2003	Publication	Respiratory diseases
<b>Automated-PC-Networked-Based Seismic Monitoring Systems Applied to Mining Hazards Research</b> Swanson-P   Seismological Research Letters, 71(1), 2000; :234	2000	Publication	Ground control
<b>Bag and Belt Cleaner Reduces Employee Dust Exposure</b> Cecala-AB; Timko-RJ; Prokop-AD   Rock Prod 100 (3),1997 Mar; :41-43	1997	Publication	Respiratory diseases

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<b>Barricading Makes a Comeback?</b> Brnich-MJ Jr.; Vaught-C   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1997 Nov; :14	1997	Publication	Mine disasters
<b>Behavior of a Limestone Roof Supported by Spot Bolting</b> Dolinar-DR; Mucho-TP   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin 1999 Mar; :19	1999	Publication	Ground control
<b>Behavioral and Organizational Dimensions of Underground Mine Fires</b> Vaught-C; Brnich-MJ; Mallett-LG; Cole-HP; Wiehagen-WJ; Conti-RS; Kowalski-KM; Litton-CD   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 2000-126, Information Circular 9450, 2000 May :1-240	2000	Publication	Mine disasters
<b>Belt Fires and Mine Escape Problems</b> Kovac-JG; Kravitz-JH; Lazzara-CP   In: Proceedings of Longwall USA. Pittsburgh, PA, 1995; :65-75	1996	Publication	Mine disasters
<b>Best Practices and Bolting Machine Innovations for Roof Screening</b> Robertson-SB; Molinda-GM; Dolinar-DR; Pappas-DM; Hinshaw-GE   2003 SME Annual Meeting, Feb 24-26, Cincinnati, Ohio, preprint 03-158. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc.; :1-8	2003	Publication	Ground control
<b>Best Practices to Mitigate Injuries and Fatalities from Rock Falls</b> Mark-C; Iannoacchione-AT   In: Proceedings of the 31st Annual Institute of Mining Health, Safety and Research, Bockosh GR, Karmis M, Langton J, McCarter MK, Rowe B, eds., Blacksburg, VA: Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering, 2000; :115-130	2000	Publication	Ground control
<b>Biomechanical Modeling of Asymmetric Lifting Tasks in Constrained Lifting Postures</b> Gallagher-S; Hamrick-CA; Love-AC   In: Karwowski W, Wogalter MS, Dempsey PG, eds. Ergonomics and musculoskeletal disorders: research on manual materials handling, 1983-1996. Human Factors and Ergonomics Society, 1997; :86-90	1997	Publication	Cumulative injuries
<b>Biomechanical Modeling of Spinal Loading Due to Jarring and Jolting for Heavy Equipment Operators</b> Waters-TR; Li-F; Huston-RL; Kittusamy-NK   In: Ergonomics in the Digital Age: Proceedings of the XVth Triennial Congress of the International Ergonomics Association and 7th Joint Conference of Ergonomics Society of Korea/Japan Ergonomics Society (Seoul, Korea, Aug. 24-29, 2003). Seoul, Korea: Ergonomics Society of Korea, 2003 Aug; :4 pp	2003	Publication	Cumulative injuries
<b>Biomechanics of a Cable Hanging Task</b> Gallagher-S   In: Kumar S, ed. Advances in Occupational Ergonomics and Safety - Proceedings of the XIIIth Annual International Occupational Ergonomics and Safety Conference 1998, IOS Press, 1998; :244-247	1998	Publication	Cumulative injuries
<b>Blasting Injuries in Surface Mining with Emphasis on Flyrock and Blast Area Security</b> Bajpayee-TS; Rehak-TR; Mowrey-GL; Ingram-DK   J Saf Res 2004 Jan; 35(1), 2004 Jan; :47-57	2004	Publication	Traumatic injuries
<b>Blasting Safety - Revisiting Site Security</b> Bajpayee-TS; Verakis-HC; Lobb-TE   Proc 31st Ann Conf Explos Blasting Tech, Orlando, FL, February 6-9, 2005, 2005 Feb 6; 2:1-13	2005	Publication	Traumatic injuries
<b>Blasting-Related Carbon Monoxide Migration Incident in Bristow, Virginia</b> Harris-ML; Rowland-JH; Mainiero-RJ   In: Proceedings of the 30th Annual Conference on Explosives and Blasting Technique (New Orleans, LA, Feb. 1-4, 2004). Vol. 2. Cleveland, OH: International Society of Explosives Engineers; :319-327	2004	Publication	Traumatic injuries

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<b>Bolt Load Changes During Initial Face Advance and Cross-Cut Breakthrough</b> Signer-S; Pile-P; Bessinger-S   Proceedings: 23rd International Conference on Ground Control in Mining, Morgantown, West Virginia, August 3-5, 2004, S.S. Peng, C. Mark, G. Finfinger, S. Tadolini, A.W. Khair, and K. Heasley, eds., Morgantown, WV: West Virginia University, 2004 Aug; :250-257	2004	Publication	Ground control
<b>Calibration of the Analysis of Longwall Pillar Stability (ALPS) Chain Pillar Design Methodology for Australian Conditions</b> Colwell-I-M; Frith-RC; Mark-C   In: Proceedings of the 18th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, 1999; :282-290	1999	Publication	Ground control
<b>Case Studies of Cable Bolts Using Instrumented King Wires</b> Martin-LA; Pakalnis-R; Curtin-RP   In: D. Elsworth, J.P. Tinnucci, and K.A. Heasley, eds. Rock Mechanics in the Public Interest. Proceedings of the 38th U.S. Rock Mechanics Symposium, DC Rocks, Vol 1, (July 7-10, 2001; Washington, DC), Balkema, 2001 Jul; :1013-1020	2001	Publication	Ground control
<b>CFD Analysis of Mine Fire Smoke Spread and Reverse Flow Conditions</b> Edwards-JC; Hwang-CC   Proc Eighth U.S. Mine Ventilation Symposium. Rolla, MO; University of Missouri-Rolla, Press, Rolla, Missouri, 1999 Jun; :417-422	1999	Publication	Mine disasters
<b>CFD Modeling of Smoke Reversal</b> Hwang-CC; Edwards-JC   Proc International Conference on Engineered Fire Protection Design (Jun 11-15, 2001; San Francisco, CA), Bethesda, MD: Society of Fire Protection Engineers, Inc. :376-387	2001	Publication	Mine disasters
<b>Challenging Conventional Wisdom and Setting New Priorities Concerning West Virginia Mine Safety Performances</b> Grayson-RL   SME preprint 98-92. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc	1998	Publication	Surveillance and training
<b>Changes in Face Methane Concentrations Using High Capacity Scrubbers with Exhausting and Blowing Ventilation</b> Taylor-CD; Rider-JP; Thimons-ED   Soc Min Eng preprint 96-167, 1996	1996	Publication	Mine disasters
<b>Characteristics of Fugitive Dust Generated from Unpaved Mine Haulage Roads</b> Organiscak-JA; Reed-WR   Int J Surface Min Reclam Environ 18(4)2004; :236-252	2004	Publication	Respiratory diseases
<b>Characteristics of Mining-Induced Seismicity Associated with Roof Falls and Roof Caving Events</b> Iannacchione-AT; Esterhuizen-GS; Bajpayee-TS; Swanson-PL; Chapman-MC   Proceedings of the 40th U.S. Symposium on Rock Mechanics, ARMA/USRMS paper 05-678, Anchorage, AK, June 27-29, 2005; 10 pp	2005	Publication	Ground control
<b>Characterization of Diesel Aerosols in an Underground Metal Mine</b> Bugarski-AD   In: Mayer A, ed. Proceedings of the Eighth International ETH-Conference on Nanoparticle Measurement (Zurich, Switzerland, August 16-18, 2004), 2004; :1-2	2004	Publication	Respiratory diseases
<b>Characterization of Diesel Particulate Matter (DPM) and Potential Health Effects Associated with Exposure to the DPM in Underground Mines</b> Bugarski-AD; Gautam-M   In: Proceedings of the Mining Diesel Emissions Conference (Markham, Ontario, Canada)	2000	Publication	Respiratory diseases
<b>Characterization of Gas Flow in Longwall Gobs: Pittsburgh Coalbed, PA</b> Diamond-WP; Schatzel-SJ; Garcia-F; LaScola-JC; McCall-FE; Jeran-PW; Mucho-TP   Proc Intl Coalbed Methane Symp. Tuscaloosa, AL: University of Alabama, 1999; :233-244	1999	Publication	Mine disasters
<b>Characterization of In Situ Stress Conditions at Depth-Homestake Mine, Lead, South Dakota</b> Girard-M; McKibbin-RW; Seymour-JB; Jones-FM   Proceedings of the 36th U.S. Rock Mechanics Symposium. New York, NY: Columbia University, paper No. 104, 1997	1997	Publication	Ground control

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<b>Characterizing Roof Fall Signatures from Underground Mines</b> Iannacchione-AT; Burke-LM; Chapman-MC   In: Proceedings of the Sixth International Symposium on Rockburst and Seismicity in Mines (Perth, Australia, March 9-11, 2005). Nedlands, Australia: Australian Centre for Geomechanics, 205; :619-629	2005	Publication	Ground control
<b>Chemical and Physical Factors that Influence NOx Production During Blasting: Exploratory Study</b> Sapko-M; Rowland-J; Mainiero-R; Zlochower-I   In: Proceedings of the 28th Annual Conference on Explosives and Blasting Technique (Las Vegas, NV, Feb. 10-13, 2002). Vol. 2. Cleveland, OH: International Society of Explosives Engineers, 2002 Feb; :317-330	2002	Publication	Surveillance and training; Traumatic injuries
<b>Classification of Large Seismic Events at Lucky Friday Mine</b> Whyatt-JK; Blake-W; Williams-TJ   Transactions of the Institution of Mining and Metallurgy (Section A: Mining Industry), vol. 106, Sept.-Dec. 1997; :A148-A162	1997	Publication	Ground control
<b>Classification of Large Seismic Events at the Lucky Friday Mine</b> Whyatt-JK; Blake-W; Williams-TJ   In: Ozdemir L, Hanna K, Harnam KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :253-268	1996	Publication	Ground control
<b>Clearing the Air</b> Cecala-AB; Zimmer-JA   Aggregates Manager 9(4) 2004; :12-14	2004	Publication	Respiratory diseases
<b>Clothes Cleaning Process: Instructional Materials</b> NIOSH   NIOSH 2004; :1-16	2004	Publication	Respiratory diseases; Surveillance and training
<b>CO Migration from Trench Blasting in Amherst, New York</b> Harris-ML; Mainiero-RJ   In: Proceedings of the 30th Annual Conference on Explosives and Blasting Technique (New Orleans, LA, Feb. 1-4, 2004). Vol. 2. Cleveland, OH: International Society of Explosives Engineers; :25-39	2004	Publication	Traumatic injuries
<b>Coaching Skills for On-the-Job Trainers</b> Mallett-LG; Kowalski-Trakofler-K, Vaught-C; Wiehagen-WJ; Peters-RH; Keating-P   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-146, Information Circular 9479	2005	Publication	Surveillance and training
<b>Coal Contractor Mining Facts - 2001</b> NIOSH   NIOSH Publication No. 2003-130, 2003 Apr; :1-2	2003	Publication	Surveillance and training
<b>Coal Contractor Mining Facts - 2002</b> NIOSH   NIOSH Publication No. 2004-128, 2004 Jan; :1 pp	2004	Publication	Surveillance and training
<b>Coal Contractor Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-115, 2005 Feb; :1	2005	Publication	Surveillance and training
<b>Coal Dust Explosibility</b> Cashdollar-KL   Journal of Loss Prevention in the Process Industries, 9(1), 1996 Jan; :65-76	1996	Publication	Respiratory diseases
<b>Coal Dust Inerting and Postexplosion Dust Sampling Research in a 1-M3 Laboratory Chamber and an Experimental Mine</b> Cashdollar-KL; Going-JE   In: Proceedings of the 2003 Technical Meeting of the Eastern States Section of the Combustion Institute (The Pennsylvania State University, University Park, PA, October 26-29, 2003). Pittsburgh, PA: The Combustion Institute, 2003; :97-100	2003	Publication	Mine disasters
<b>Coal Mine Seismicity and Bumps: Historical Case Studies and Current Field Activity</b> Ellenberger-JL; Heasley-KA   Proc 19th Intl Conf on Ground Control in Mining, 2000, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, 2000; :112-120	2000	Publication	Ground control



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Coal Mine Subsidence Prediction Using a Boundary-Element Program Heasley-KA; Barton-TM   SME Preprint 99-181; Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1999; :6 pp	1999	Publication	Ground control
Coal Operator Mining Facts - 2001 NIOSH   Pittsburgh, PA, NIOSH Publication No. 2003-129, 2003 Apr; :1-2	2003	Publication	Surveillance and training
Coal Operator Mining Facts - 2002 NIOSH   NIOSH Publication No. 2004-123, 2004 Jan; :1 pp	2004	Publication	Surveillance and training
Coal Operator Mining Facts - 2003 NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-114, 2005 Feb; :1	2005	Publication	Surveillance and training
Coated Flight Bars - Technologically Achievable, Administratively Achievable, and Promising Noise Controls (30 CFR Part 62) NIOSH   Information Bulletin P04-18, 2005 ( <a href="http://www.msha.gov/regs/complan/PIB/2004/pib04-18.pdf">http://www.msha.gov/regs/complan/PIB/2004/pib04-18.pdf</a> )	2005	Publication (guidelines)	Hearing loss
Coeur d'Alene Mining District: Product of Preconcentrated Source Deposits and Tectonism Within the Lewis and Clark Line White-B   In: Roberts S, Winston D, eds. Geologic Field Trips, Western Montana and Adjacent Areas. University of Montana, Missoula, and Western Montana College of the University of Montana, Dillon, pp. 95-102	2000	Publication	Ground control
Collaborative Ergonomics Field Research: An Assessment of Risk Factors at Four Mines Steiner-LJ; Bauer-ER; Cook-AH; Cornelius-KM; Gallagher-S; Rethi-LL; Rossi-EW; Turin-FC; Wiehagen-WJ   Min Eng 56(2), 2004; :41-48	2004	Publication	Cumulative injuries
Collaborative Study of Multiple Seam Experience at Harris Mine Chase-FE; Worley-P; Mark-C   Paper in Proc. 24th Intl. Conf. on Ground Control in Mining, West Virginia University, Morgantown, WV, 2005, pp. 79-85	2005	Publication	Ground control
Combating Mine Fires with the Aid of Inflatable Devices Conti-RS; Chasko-LL; Pro-RW   In: Proceedings of the Second International Conference on Fire Research and Engineering, 3-8 August 1997. Gaithersburg, MD: U.S. Department of Commerce, Technology Administration, National Institute of Standards and Technology, 1998; :441-449	1998	Publication	Mine disasters
Combined Optical and Ionization Measurement Techniques for Inexpensive Characterization of Micrometer and Submicrometer Aerosols Litton-CD; Smith-KR; Edwards-R; Allen-T   Aerosol Sci Technol 38(11), 2004; :1054-1062	2004	Publication	Mine disasters
Common Information Service System (CISS) NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 98-127	1998	Publication	All
Communicating Hearing Loss Information to Young Children: Effectiveness of Lecture and Printed Materials Randolph-RF; Hudak-RL; Vaught-C   AAOHN J 51(10):433-438	2003	Publication	Hearing loss
Communicating the Same Message with Different Media: An Example from Hearing Loss Prevention Randolph-RF; Kohler-JL; Byrne-DC   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :45-54	2002	Publication	Hearing loss; Surveillance and training

Title	Year	Output Type	Strategic Goal
<b>Comparative In-Mine Evaluation of Carbon Monoxide and Smoke Detectors</b> Edwards-JC; Friel-GF   US Bureau of Mines, Report of Investigations 9622. NTIS stock number: PB96-165188, 1996 :1-11	1996	Publication	Mine disasters
<b>Comparing Estimated Low Back Loads from Control Interventions for Underground Mine Roof Bolter Operators</b> Ambrose-DH; Cole-GP   KOMAG, KOMTECH Conference, Nov. 14-17, 2005, Zakopane, Poland, 10 pp.	2005	Publication	Traumatic injuries
<b>Comparison of Body-Wave Displacement with Damage Observations of a Rockburst, Coeur d' Alene Mining District, Idaho</b> Spreke-KF; White-BG; Rohay-AC; Whyatt-JK; Stickney-MC   Bulletin of the Seismological Society of America, vol. 92, no. 8; :3321-3328	2002	Publication	Ground control
<b>Comparison of Coal Mine Dust Size Distributions and Calibration Standards for Crystalline Silica Analysis</b> Page-SJ   AIHA J 64(Jan/Feb), 2003; :30-39	2003	Publication (guidelines)	Respiratory diseases
<b>Comparison of Ground Conditions and Ground Control Practices in the United States and Australia</b> Marc-C   Min Eng 51(4):52-56	1998	Publication	Ground control
<b>Comparison of Ground Conditions and Ground Control Practices in the United States and Australia</b> Mark-C   Proc 17th Intl Conf on Ground Control in Mining, Peng SS, ed., Morgantown, WV: West Virginia University, 1998 Aug :63-71	1998	Publication	Ground control
<b>Comparison of Jolting and Jarring in a Newer and Older Dozer at a Highway Construction Site</b> Kittusamy-NK; Miller-RE   In: Ergonomics in the Digital Age: Proceedings of the XVth Triennial Congress of the International Ergonomics Association and the 7th Joint Conference of the Ergonomics Society of Korea/Japan Ergonomics Society. Seoul, Korea: Ergonomics Society of Korea, 2003; :1-3	2003	Publication	Cumulative injuries; Traumatic injuries
<b>Comparison of Methane Concentrations at a Simulated Coal Mine Face During Bolting</b> Taylor-CD; Thimons-ED; Zimmer-JA   In: Tien JC, ed. Proceedings of the Eighth U.S. Mine Ventilation Symposium, Rolla, MO: University of Missouri-Rolla Press, 1999; :171-178	1999	Publication	Mine disasters
<b>Comparison of Methane Concentrations at a Simulated Coal Mine Face During Bolting</b> Taylor-CD; Thimons-ED; Zimmer-JA   J Mine Vent Soc S Afr, 52(2),1999 Apr; :48-52	1999	Publication	Mine disasters
<b>Comparison of Ore Pass Computer Simulations for Designs Against Dynamic Load</b> Iverson-S; Jung-SF; Biswas-K   Presentation at annual meeting of the Society for Mining, Metallurgical, and Exploration Engineers, Cincinnati, OH, Feb. 26-28, 2003, preprint 03-157, SME, Littleton, CO. 2003 Feb; :11 pp	2003	Publication	Ground control
<b>Comparison of Seismic Tomography, Strain Relief, and Ultrasonic Velocity Measurements to Evaluate Stress in an Underground Pillar</b> Scott-DF; Girard-JM; Williams-TJ; Denton-DK   Society for Mining, Metallurgy, and Exploration, Inc. (SME) Annual Meeting (Mar 1-3, 1999; Denver, CO); SME Preprint 99-155	1999	Publication	Ground control
<b>Compression and Shear Loads on Lumbar Spine Motion Segments in Neutral and Flexed Postures</b> Gallagher-S; Marras-WS   In: Proceedings of the Human Factors and Ergonomics Society 47th Annual Meeting, Santa Monica, CA: Human Factors and Ergonomics Society, 2003; :1303-1307	2003	Publication	Cumulative injuries
<b>Computer Design and Evaluation Tool for Illuminating Underground Coal-Mining Equipment</b> Gallagher-S; Mayton-AG; Unger-RL; Hamrick-CA; Sonier-P   Journal of the Illuminating Engineering Society 25(1), 1996; :3-12	1996	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Computer Modeling of Catch Benches to Mitigate Rockfall Hazards in Open Pit Mines</b> Miller SM; Girard JM; McHugh E   Pacific rocks 2000: Rock Around the Rim: Proceedings of the Fourth North American Rock Mechanics Symposium (NARMS 2000), ed. By J Girard, M. Leibman, C. Breeds, and T. Doe (Seattle WA, July 31-August 3, 2000). Balkema, :539-545	2000	Publication	Ground control
<b>Computer Simulation of Ground Behaviour and Rock Bolt Interaction at Emerald Mine</b> Gale-WJ; Mark-C; Oylar-DC; Chen-J   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proc 23rd Intl Conf on Ground Control in Mining, Morgantown, WV, August 3-5, 2004. Morgantown, WV: West Virginia University; :27-34	2004	Publication	Ground control
<b>Computer Simulations Help Determine Safe Vertical Boom Speeds for Roof Bolting in Underground Coal Mines</b> Ambrose-DH; Bartels-JR; Kwitowski-AJ; Gallagher-S; Battenhouse-TR   Safety Res 2005 Oct-Dec; 36(4):387-397	2005	Publication	Traumatic injuries
<b>Computer-Assisted Trolley Fault Detection Using Neural Networks</b> Peterson-JS; Cole-GP   NASA Tech Briefs 20(1), 1996	1996	Publication	Traumatic injuries
<b>Computerized Accident Reconstruction and Training for Metal/Non-Metal Mines</b> Filigenzi-MT; Orr-TJ; Ruff-TM   Am J Ind Med, 1999 Sep 36(S1):116-118	1999	Publication	Surveillance and training
<b>Computers in Geology, Geometry, Planning, Training, Communications: Mine Mapping, Modeling, and Visualization Systems</b> Anderson-D   Engineering and Mining Journal, 197(7), 1996; :34-35	1996	Publication	Ground control; Surveillance and training
<b>Concluding Evaluation of a Continuous Haulage Guidance Sensor</b> Sammarco-JJ   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 98-161, Report of Investigations 9646, 1998 Oct; :1-17	1998	Publication	Traumatic injuries
<b>Condition Monitoring of Stator Windings in Induction Motors: Part I--Experimental Investigation of the Effective Negative-Sequence Impedance Detector</b> Kohler-JL; Sottile-J; Trutt-FC   IEEE Transactions on Industry Applications 38(5), 2002	2002	Publication	Traumatic injuries
<b>Condition Monitoring of Stator Windings in Induction Motors: Part II--Experimental Investigation of Voltage Mismatch Detectors</b> Sottile-J; Trutt-FC; Kohler-JL   IEEE Transactions on Industry Applications 38(5), 2002	2002	Publication	Traumatic injuries
<b>Condition-Based Maintenance of Electrical Machines</b> Kohler-JL; Sottile-J; Trutt-FC   Proceedings of the IEEE Industry Applications Conference, 34th IAS Annual Meeting, (1999 Oct 3-7) Phoenix, AZ 1999 Oct; :205-211	1999	Publication	Traumatic injuries
<b>Considerations for Estimating Remote Operator Dust Exposure Using Fixed-Point Samples on Continuous Mining Sections</b> Listak-JM; Goodman-GVR; Jankowski-RA   In: Proceedings of the Eighth U.S. Mine Ventilation Symposium, : Tien-JC, ed., Rolla, MO: University of Missouri-Rolla Press, 1999; :249-254	1999	Publication	Respiratory diseases
<b>Considerations for Using Roof Monitors in Underground Limestone Mines in the USA</b> Prosser-LJ; Marshall-TE; Tadolini-SC; Iannacchione-AT; Banta-C   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003 Aug; :119-126	2003	Publication	Ground control
<b>Considerations in Training On-the-Job Trainers</b> Wiehagen-B; Conrad-D; Friend-T; Rethi-L   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :27-34	2002	Publication	Surveillance and training

Title	Year	Output Type	Strategic Goal
<b>Construction Noise Control in the 21st Century</b> Schneider-S; Spencer-ER; Babich-DR; Healy-T; Bailey-C; Moir-S; Kardous-CA; Ogle-T; Ringen-K   In: Proceedings of the 12th Annual Construction Safety and Health Conference "Power Through Partnerships", Rosemont, IL: Construction Safety Council; :39-44	2002	Publication	Hearing loss
<b>Construction, Maintenance, and Repair Activities: The Data on Injuries, 1993-1997</b> Kowalski-KM   In: Bockosh GR, Kohler JL, Langton JF, Novak T, McCarter MK, Vibiano A, eds. Proceedings of the 33rd Annual Institute on Mining Health, Safety and Research. Blacksburg, VA: Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering, 2002; :117-126	2002	Publication	Surveillance and training
<b>Construction/Maintenance and Repair Activities: Hazard Recognition Training Program</b> Rethi-LL; Flick-JP; Kowalski-KM; Calhoun-RA   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-158, 1999 Oct :3-79	1999	Publication	Surveillance and training
<b>Continuous Respirable Mine Dust Monitor Development</b> Cantrell-BK; Williams-KL; Stein-SW; Hassel-D; Patashnick-H   Proc 27th Annual Institute on Mining Health, Safety and Research, 1996, Bockosh-GR; Langton-J; Karmis-M, Blacksburg, VA: Virginia Polytechnic Institute and State University :91-102	1996	Publication	Respiratory diseases
<b>Continuous Respirable Mine Dust Monitor Development</b> Cantrell-BK; Williams-KL; Stein-SW; Hassel-D; Patashnick-H   Proceedings of the 6th International Mine Ventilation Congress. Chapter 2. Society for Mining, Metallurgy, and Exploration, Inc.: Littleton, CO,1997; :11-17	1997	Publication	Respiratory diseases
<b>Continuous Wave Laser Ignition Thresholds of Coal Dust Clouds</b> Dubaniewicz-TH Jr; Cashdollar-KL; Green-GM   Journal of Laser Applications, 2003 Aug; 15(3):184-191	2003	Publication	Mine disasters; Traumatic injuries
<b>Control and Monitoring of Gas in Blind Auger Headings</b> Volkwein-JC   In: Ramani RV, ed. Proceedings of the 6th International Mine Ventilation Congress, Chapter 26, Society for Mining, Metallurgy, and Exploration, Inc., Littleton, CO, 1997; :165-168	1997	Publication	Respiratory diseases
<b>Control of Dust in Hard Rock Tunnels</b> Kissell-FN   Tunnel Business Mag., 2002 Aug	2002	Publication (guidelines)	Respiratory diseases
<b>Control of Respirable Dust</b> Kissell FN; Colinet JF   In: Karmis M, ed. Mine health and safety management, 2001, Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc.; :275-295	2001	Publication	Respiratory diseases
<b>Controlling Roof and Ribs in Underground Mines</b> Iannacchione-AT; Mucho-TP; Prosser-LJ Jr   Aggregates Manager J Aug/Sep, 1996; :33-37	1996	Publication	Ground control
<b>Controlling Roof Beam Failures From High Horizontal Stresses in Underground Stone Mines</b> Iannacchione AT, Dolinar DR, Prosser LJ Jr., Marshall TE, Oyler DC, Compton CS   In: Aziz NI, Indraratna B, eds. Proceedings of the International Conference on Geomechanics/Ground Control in Mining and Underground Construction, Wollongong, New South Wales, Australia: University of Wollongong, Vol. 2, 1998; :525-541	1998	Publication	Ground control
<b>Controlling Roof Beam Failures From High Horizontal Stresses in Underground Stone Mines</b> Iannacchione-AT; Dolinar-DR; Prosser-LJ; Marshall-TE; Oyler-DC; Compton-CS   In: Proceedings of the 17th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, WV: University of West Virginia, 1998 Aug 4-6, 1998 Aug; :102-112.	1998	Publication	Ground control
<b>Conveyance Monitoring to Improve Mine Hoisting Safety</b> Beus-MJ; Ruff-TM; McCoy-WG   In: Proceedings of the IEEE-Industrial Applications Society 32nd Annual Meeting, Vol. 3, 1997; :2091-2105	1997	Publication	Traumatic injuries

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<b>Covering the Roof Reduces Crippling Injuries Underground</b> Molinda-GM; Robertson-SB; Mark-C; Dolinar-DR   Coal Age 108(11-12), 2003; :20-22, 26	2003	Publication	Ground control
<b>Creep Along Weak Planes in Roof and How It Affects Stability</b> Larson-MK; Wade-RG   Society for Mining Engineers Annual Meeting and Exhibit, 2000, Feb 29 Mar 1 Salt Lake City, UT Littleton, CO; :8 pp	2000	Publication	Ground control
<b>Cripple Creek Deep Cut: An Exercise for Remote Control Miner Operators and Face Crews</b> Steiner-LJ; Brnich-MJ; Duncan-J; Vaught-C; Calhoun-RA; Cornelius-KC; Rethi-LL; Rossi-EW; Turin-FC   National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-159, 1999 Oct :1-44	1999	Publication	Surveillance and training; Traumatic injuries
<b>Cross-Sectional Survey of Noise Exposure in the Mining Industry</b> Bauer-ER; Kohler-JL   Proc 31st Annual Institute of Mining Health, Safety and Research, Aug 27-30, 2000, Roanoke, VA, Bockosh-G, Karmis-M, Langton-J, McCarter-MK, Rowe-B, eds. Virginia Tech 2000 Aug; :17-30	2000	Publication	Hearing loss
<b>Current Developments in U.S. Mining Education and Training</b> Grayson-RL   In: Proceedings of Minesafe International 1998. University of Witwatersrand, Republic of South Africa, 1998; :229-236	1998	Publication	Surveillance and training
<b>Current NIOSH Dust Control Research for Noncoal Surface Mines</b> Cecala-AB; Organiscak-JA; Page-SJ; Heitbrink-WA; Thimons-ED   Proc National Stone, Sand & Gravel Association Environment, Safety & Health Forum 2001 Sept Arlington, VA: National Stone, Sand & Gravel Association, 2001; :87-100	2001	Publication	Respiratory diseases
<b>Current Research on Slope Movement in Mines: Use of Hyperspectral Imagery</b> McHugh-EL; Girard-JM; Denes-LJ; Metes-P; Sabine-C   14th International Conference on Applied Geologic Remote Sensing, 2000 Nov Las Vegas, NV :1-8	2000	Publication	Ground control
<b>Current State of Insert-Type Hearing Protector Fit-Testing: Follow-On Measurements in the Steel Industry and Fit-Testing in a Mobile Environment</b> Byrne-DC; Michael-KL   Spectrum 19(1):14-16	2002	Publication	Hearing loss
<b>Damage Delineation in Structures Using Laser Vibrometry and Remote Excitation</b> Swanson-P; Rettkowski-J   Proc 2004 SEM X Intl Congress and Exposition on Experimental and Applied Mechanics (Costa Mesa, CA, June 7-10, 2004). Bethel, CT: Society for Experimental Mechanics, 2004 Jun; :1-7	2004	Publication	Ground control
<b>Decision Making During a Simulated Mine Fire Escape</b> Cole-HP; Vaught-C; Wiehagen-WJ; Haley-JV; Brnich-MJ Jr.   IEEE Transactions on Engineering Management, 45(2), 1998; :153-162	1998	Publication	Mine disasters
<b>Deep Cover Pillar Extraction in the U.S. Coalfields</b> Chase-FE; Mark-C; Heasley-KA   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :68-80	2002	Publication	Ground control
<b>Deep-cut Ground Control and Worker Safety in Coal Mines</b> Bauer-ER; Bise-CJ   SME preprint 99-109. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1999	1999	Publication	Ground control
<b>Demonstration of Remote Mine Seal Construction</b> Gray-TA; Trevits-MA; Crayne-LM; Glogowski-P   2004 SME Annual Meeting, Feb 23-25, Denver, Colorado, preprint 04-194. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004 Feb; :1-8	2004	Publication	Mine disasters
<b>Derating factors - for round and flat mine trailing cables</b> Kovalchik-P   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/electrical/deratingfactors.htm">http://www.cdc.gov/niosh/mining/topics/electrical/deratingfactors.htm</a>	2000	Web document	Traumatic injuries

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<b>Description of a Large Catastrophic Failure in a Southwestern Wyoming Trona Mine</b> Zipf-RK; Swanson-P   Rock Mechanics for Industry. Proceedings of the 37th U.S. Rock Mechanics Symposium (Vail, CO, June 6-9, 1999), B. Amadei, R. L. Kranz, G. A. Scott, and P. H. Smeallie eds., Balkema, 1999 Jun; :293-298	1999	Publication	Ground control
<b>Design Analysis of Underground Mine Ore Passes: Current Research Approaches</b> Beus-MJ; Iverson-SR; Stewart-BM   Presentation at the 100th CIM Conference (Montreal, Quebec, Canada, May 3-7, 1998); 8 pp	1998	Publication	Ground control
<b>Design and Demonstration of a Continuous Dust Control Parameter Monitoring System</b> Spencer-ER; Kovscek-PD; Fields-KG   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9623. NTIS stock number: PB96-188156, 1996	1996	Publication	Respiratory diseases
<b>Design and Demonstration of a Continuous Dust Control Parameter Monitoring System</b> Spencer-ER; Kovscek-PD; Fields-KG   In: Proceedings of Longwall USA. Pittsburgh, PA, 1996; :121-132	1996	Publication	Respiratory diseases
<b>Design and Hazard Assessment of Mine Ore Passes</b> Beus-MJ; Stewart-BM; Iverson-S   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :297-309	1996	Publication	Ground control; Traumatic injuries
<b>Design and Instrumentation of a Large Reverberation Chamber</b> Peterson-JS; Bartholomae-RC   NOISE-CON. Ames, IA: Institute of Noise Control Engineering of the USA, 2003 Jun; :1-8	2003	Publication	Hearing loss
<b>Design and Testing of a Nondestructive Friction Bolt Tester</b> Martin-L; Goris-J; Roberts-L   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-131, Information Circular 9469, 2004 Mar :1-6	2004	Publication	Ground control
<b>Design Considerations for the Next Generation of Longwall Shields</b> Barczak-TM   In: Proceedings of Longwall USA International Exhibition & Conference. Overland Park, KS: Intertec Publishing Corp., 2001; :17-38	2001	Publication	Ground control
<b>Design in Weak Rock Masses: Nevada Underground Mining Operations</b> Brady-T; Pakalnis-R; Clark-L   Presentation at annual meeting of SME, Salt Lake City, UT, Feb. 28-Mar. 2, 2005. Preprint 05-43, 2005; : 9 pp	2005	Publication	Ground control
<b>Design Methodology for Standing Secondary Roof Support in Longwall Tailgates</b> Mucho-TP; Barczak-TM; Dolinar-DR; Bower-J; Bryja-JJ   In: Proceedings of the 18th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, 1999; :136-148	1999	Publication	Ground control
<b>Design Methods to Control Violent Pillar Failures in Room-and-Pillar Mines</b> Zipf-RK Jr.; Mark-C   Transactions of the Institution of Mining and Metallurgy 106(Sept-Dec), 1997; :A124-A132	1997	Publication	Ground control
<b>Design Methods to Control Violent Pillar Failures in Room-and-Pillar Mines</b> Zipf-RK Jr.; Mark-C   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control. Golden, CO: Colorado School of Mines, 1996; :571-585	1996	Publication	Ground control
<b>Design of Ore Passes</b> Beus-MJ; Pariseau-WG; Stewart-BM Iverson-SR   Ch. 71 in Underground Mining Methods: Engineering Fundamentals and International Case Studies, William Hustrulid and Richard Bullock, eds., Society for Mining, Metallurgy, and Exploration, Littleton, CO, 2001; :627-634	2001	Publication	Traumatic injuries

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<b>Design of Primary Roof Support Systems in U.S. Coal Mines Based on the Analysis of Roof Fall Rates</b> Dolinar-DR; Mark-C; Molinda-GM   Proc Fourth Intl Symp on Roof Bolting in Mining, Aachen, Germany, Martens-PN ed., Druckerei Mainz GmbH; 2001; ::235-252	2001	Publication	Ground control
<b>Design of U.S. Longwall Gate Entry Systems</b> Mark-C   In: Milestones in Rock Engineering - The Bieniawski Jubilee Collection. Balkema, 1996; :s291-307	1996	Publication	Ground control
<b>Design Parameters of Roof Support Systems for Pre-Driven Longwall Recovery Rooms</b> Tadolini-SC; Barczak-TM   2004 SME Annual Meeting, Feb 23-25, Denver, Colorado, preprint 04-54. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004 Feb; :1-13	2004	Publication	Ground control
<b>Design Spans: Underhand Cut-and-Fill Mining</b> Pakalnis R, Caceres C, Clapp K, Morin M, Brady T, Williams T, et al.   Montreal, Quebec, Canada: Canadian Institute of Mining, Metallurgy, and Petroleum, pp. 1-9. [http://www.cim.org/meetings/techpapers/44/s44a2214p1883.pdf]	2005	Publication	Ground control
<b>Designs for Rapid In-Situ Sealing</b> Sapko-MJ; Weiss-ES; Trackemas-J; Stephan-CR   In: Proceedings of the Annual Meeting of the Society for Mining, Metallurgy, and Exploration, Inc (Feb 2003; Cincinnati, OH). Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc; :8 pp	2003	Publication	Mine disasters
<b>Detecting Problems With Mine Slope Stability</b> Girard-JM; McHugh-E   Presentation at 31st Annual Institute on Mining Health, Safety, and Research, Roanoke, VA, Aug. 27-30, 2000; :8 pp	2002	Publication	Ground control
<b>Detection of A-C Machine Winding Deterioration Using Electrically Excited Vibrations</b> Trutt-FC; Sottile-J; Kohler-JL   Proc IEEE Industry Applications Conference, 34th IAS Annual Meeting, 1999 Phoenix, AZ Oct 3-7 IEEE Standards Office 1999 Oct; :1903-1907	1999	Publication	Traumatic injuries
<b>Detection of A-C Machine Winding Deterioration Using Electrically Excited Vibrations</b> Trutt-FC; Sottile-J; Kohler-JL   IEEE Transactions on Industry Applications Vol. 37-1, 2001; :10-14	2001	Publication	Traumatic injuries
<b>Detection of A-C Machine Winding Deterioration Using Electrically Excited Vibrations</b> Trutt-FC; Sottile-J; Kohler-JL   In: Proceedings of the Maintenance and Reliability Conference, 1999; :8.01-8.08	1999	Publication	Traumatic injuries
<b>Detection of Downed Trolley Lines Using Arc Signature Analysis</b> Peterson-JS; Cole-GP   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 97-123, Report of Investigations 9639 1997 May :1-13	1997	Publication	Traumatic injuries
<b>Detection of Electrical Winding Deterioration in Induction Motors</b> Trutt-FC; Sottile-J; Kohler-JL   Electric Power Components and Systems, Taylor & Francis 29:1025-1033	2001	Publication	Traumatic injuries
<b>Determination of In Situ Deformation Modulus for Cemented Rockfill</b> Tesarik-DR; Seymour-JB; Jones-FM   Technology Roadmap for Rock Mechanics, 10th Congress, International Society for Rock Mechanics (Sandton [Johannesburg], S. Africa, Sept. 8-10, 2003), S. African Institute of Mining and Metallurgy Symp. Series, S33, Vol. 2, 2003 Sep; :1209-1220	2003	Publication	Ground control
<b>Determination of Physical Properties of Cable Bolts in Cement Grout Pull Tests Using Instrumented King Wires</b> Martin-L; Pakalnis-R; Milne-D   Presentation at Canadian Institute of Mining annual conference, Vancouver, BC, 2002 Apr; 8 pp.	2000	Publication	Ground control



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<b>Developing a Rugged and Portable Data Acquisition System for the Field</b> Cole-GP; Peterson-JS   Sensors 13(2), 1996; :33-36	1996	Publication	Traumatic injuries
<b>Developing Random Virtual Human Motions and Risky Work Behaviors for Studying Anthropotechnical Systems</b> Ambrose-DH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Pub No. 2004-130, Information Circular 9468, 2004 Mar; :1-26	2004	Publication	Cumulative injuries; Traumatic injuries
<b>Developing Toolbox Training Materials for Mining</b> Varley-FD; Boldt-CMK   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :39-44	2002	Publication	Surveillance and training; Traumatic injuries
<b>Development and Evaluation of a New Personal Dust Monitor for Underground Mining Applications</b> Volkwein-JC; Thimons-ED; Dunham-D; Patashnick-H; Rupprecht-E   In: Sakkestad BA, ed. Proceedings of the 29th International Technical Conference on Coal Utilization and Fuel Systems (Clearwater, FL, April 18-22, 2004). Gaithersburg, MD: Coal Technology Association, 2004; :1-22	2004	Publication	Respiratory diseases
<b>Development and Evaluation of a Training Exercise for Construction, Maintenance and Repair Work Activities</b> Rethi-LL; Barrett-EA   In: Bockosh-GR, Karmis-M, Langton-J, McCarter-MK, Rowe-B eds. Proceedings of the Thirty-First Annual Institute on Mining Health, Safety and Research (Blacksburg, VA; Aug 27-30, 2000). Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering; :93-102	2000	Publication	Surveillance and training
<b>Development and Use of a High-pressure Packer for Measuring Horizontal Stress Using the Hydraulic Fracturing Method</b> Oyler-DC   In: Elsworth D, Tinucci JP, Heasley KA, eds. Rock Mechanics in the National Interest. Vol. I. Lisse, Netherlands: Swets & Zeitlinger; :227-234	2001	Publication	Ground control
<b>Development of a Dust Collector Inlet Hood for Enhanced Surface Mine Drill Dust Capture</b> Organiscak-JA; Page-SJ   Int J Surface Min Reclam Environ 19(1):12-28	2005	Publication	Respiratory diseases
<b>Development of a Fiber Optic Stress Sensor</b> Heasley-KA; Dubaniewicz-TH Jr.; DiMartino-MD   In: Proceedings of the 36th U.S. Rock Mechanics Symposium, Hudson JA, ed., New York, NY: Columbia University, Paper No. 066, 1997	1997	Publication	Ground control
<b>Development of a Lower Pressure, Water-Powered Spot Scrubber for Mining Applications</b> Organiscak-JA; Pollock-DE   SME preprint 05-103. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc, 2005; :1-9	2005	Publication	Respiratory diseases
<b>Development of a Mine Hoist and Ore Pass Research Facility</b> Beus-MJ; Ruff-TM   Spokane, WA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 97-134, Report of Investigations 9637	1997	Publication	Traumatic injuries
<b>Development of a Statistical-Analytical Approach for Assessing Coal Bump Potential</b> Maleki-H; Zahl-EG; Dunford-JP   In Proc 16th Intl Conf on Ground Control in Mining, Peng SS, ed., Morgantown, WV; West Virginia University, 1997; :304-310	1997	Publication	Ground control
<b>Development of an Automated PC-Network-Based Seismic Monitoring System</b> Swanson-P   Proceedings of the 5th International Symposium on Rockbursts and Seismicity in Mines (Johannesburg, S. Africa, Sept. 17-19, 2001), G. van Aswegen, R.J. Durrheim, and W.D. Orlepp, eds., S. African Institute of Mining and Metallurgy, Johannesburg, S. Africa, 2001 Dec; :11-17	2001	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Development of an Overhead Power Line Contact Alarm for Mobile Equipment</b> Homce-GT; Cawley-JC; Sacks-HK; Yenchek-MR   International Journal of Heavy Vehicle Systems, (12)4, 2005 Apr; :87-103	2005	Publication	Traumatic injuries
<b>Development of NIOSH Hard-Rock Safety Training Materials</b> Cullen-ET   Presentation at 108th annual exhibit and meeting, Society for Mining, Metallurgy, and Exploration, Denver, CO, Feb. 26-28, 2001; :4 pp	2001	Publication	Surveillance and training
<b>Development of Numerical Models to Investigate Permeability Changes and Gas Emission around Longwall Mining Panel</b> Esterhuizen-GS; Karacan-CO   Proceedings of the 40th U.S. Symposium on Rock Mechanics, ARMA/USRMS paper 05-744, Anchorage, AK, June 27-29, 2005; :13 pp	2005	Publication	Ground control
<b>Development of Stress Measurement Techniques in Bump-Prone Coal for Safety Decisions</b> Zahl-EG; Dunford-JP; Schissler-A; Larson-MK; Pierce-PA; Jones-FM   In: S. S. Peng and C. Mark, eds. Proceedings 19th International Conference on Ground Control in Mining (Aug. 8-10, 2000; Morgantown, WV), Dept. of Min. Eng., WV Univ., Morgantown, WV, 2000 Aug; :101-111	2000	Publication	Ground control
<b>Development of Stress Measurements and Instrument Placement Techniques for Longwall Coal</b> Zahl-EG; Dunford-JP; Tesarik-DR; Larson-MK   In: D. Elsworth, J.P. Tinnucci, and K.A. Heasley, eds., Rock Mechanics in the Public Interest. Proceedings of the 38th U.S. Rock Mechanics Symposium, DC Rocks, Vol 1, (July 7-10, 2001; Washington, DC), Balkema, 2001 Jul; :305-327	2001	Publication	Ground control
<b>Developments in Sealant Support Systems for Ground Control</b> Pappas-DM; Barton-TM; Weiss-ES   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :344-353	2002	Publication	Ground control
<b>Diesel Exhaust Aerosol, Review of Measurement Technology</b> Cantrell-BK; Watts-WF Jr.   The Canadian Adhoc Committee Proceedings of the November 6-7, 1996, Plenary Conference in Toronto, Ontario, Diesel Emissions Exposure Reduction in Mines. Toronto, Ontario, Canada: Canada Centre for Mineral and Energy Technology (CANMET) :7.1-7.9	1996	Publication	Respiratory diseases
<b>Diesel Exhaust Aerosol, Review of Occupational Exposure</b> Cantrell-BK; Watts-WF Jr   Soc Min Eng preprint 96-126, 1996	1996	Publication	Respiratory diseases
<b>Diesel Exhaust Aerosol: Review of Occupational Exposure</b> Cantrell-BK; Watts-WF Jr   Appl Occup Env Hyg 12(12), 1997; :1019-1027	1997	Publication	Respiratory diseases
<b>Diesel Exhaust Control Technology: a Review</b> Schnakenberg-GH; Bugarski-AD   In: Proceedings of the Mining Diesel Emissions Conference (Markham, Ontario, Canada)	2001	Publication	Respiratory diseases
<b>Diesel Listserver</b> Schnakenberg-G   Email listserver, sign-up at <a href="http://www.cdc.gov/niosh/mining/topics/diesel/diesellistserver.htm">http://www.cdc.gov/niosh/mining/topics/diesel/diesellistserver.htm</a>	1997	Web document	Respiratory diseases
<b>Diesel Particulate Matter Control Technologies and Measurements in US Mines</b> Mischer-SE; Bugarski-AD; Schnakenberg-GH   In: Gillies ADS, ed. Proceedings of Eighth International Mine Ventilation Congress (Brisbane, Australia), AusIMM, Victoria, Australia, 2005; : 263-274	2005	Publication	Respiratory diseases
<b>Diesel-Discriminating Mine Fire Sensors</b> Litton-CD   In: Dhar BB, Bhowmick BC, eds. Proceedings of the 27th International Conference of Safety in Mines Research Institutes, Vol. 2. New Delhi, India: Oxford & IBH Publishing Co. Pvt. Ltd.,1997; :1013-1022	1997	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Differential Pressure as a Means of Estimating Respirable Dust Mass on Collection Filters</b> Dobroski-H Jr; Tuchman-DP; Vinson-RP   Applied Occupational and Environmental Hygiene 12(12), 1997 Dec; :1047-1051	1997	Publication	Respiratory diseases
<b>Differential Pressure as a Measure of Particulate Matter Emissions from Diesel Engines</b> Mischler-SE; Volkwein-JC   Environ Sci Technol 2005 Apr; 39(7):2255-2261	2005	Publication	Respiratory diseases
<b>Differential Pressure Response of 25-mm-Diameter Glass Fiber Filters Challenged with Coal and Limestone Dust Mixtures</b> Dobroski-H; Tuchman-D; Vinson-R; Timko-RJ   Appl Occup Environ Hyg, 2002 Feb 17(2); :96-103	2002	Publication	Respiratory diseases
<b>Differential Wall Rock Movements Associated with Rock Bursts, Lucky Friday Mine, Coeur d'Alene Mining District, Idaho, USA</b> White-BG; Whyatt-JK   In: Armadei, Kranz, Scott & Smeallie, eds. Rock Mechanics for Industry. Proceedings of the 37th U.S. Rock Mechanics Symposium (Vail, CO, June 6-9, 1999), 1999 Balkema, Rotterdam, ISBN 90 5809 052 3, Balkema, 1999 Jun; :1051-1059	1999	Publication	Ground control
<b>Discriminating Mine Fire Sensors</b> Litton-CD   In: Progress in safety science and technology, Qingxuan Z, Liqiong W, Xianping X, Xinming Q, eds., Mechanics and Engineering Department, Beijing Institute of Technology, Beijing, People's Republic of China. Beijing/New York: Science Press,1998; :733-748	1998	Publication	Mine disasters
<b>Discriminatory Mine Fire Source Detection</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   In: Wasilewski S, ed. Proceedings of the Seventh International Mine Ventilation Congress (Jun 17-22, 2001; Krakow, Poland) Ch 91, 2001; :649-655	2001	Publication	Mine disasters
<b>Disease and Illness in U.S. Mining, 1983-2001</b> McHugh-E; Girard-J   Journal of Occupational and Environmental Medicine, vol. 46, no. 12; :1272-1277	2004	Publication	Surveillance and training; Traumatic injuries
<b>Distinguishing Motor Starts From Short Circuits Through Phase-Angle Measurements</b> Yenchek-MR; Cawley-JC; Brautigam-AL; Peterson-JS   In: Conference Record No. 0-7803-6404 of the 2000 IEEE Industry Applications Conference, 35th IAS Annual Meeting and World Conference on Industrial Applications of Electrical Energy (Rome, Italy, October 1-3, 2000), 2000 Oct; :2695-2702	2000	Publication	Traumatic injuries
<b>Distinguishing Motor Starts From Short Circuits through Phase-Angle Measurements</b> Yenchek-MR; Cawley-JC; Peterson-JS; Kohler-JL   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 97-120, Report of Investigations 9638, 1997 Mar :1-15	1997	Publication	Traumatic injuries
<b>Distinguishing Motor Starts from Short Circuits through Phase-Angle Measurements</b> Yenchek-MR; Cawley-JC; Peterson-JS; Kohler-JL   IEEE Trans Ind Appl, 2002 Jan/Feb 38(1):195-202	2002	Publication	Traumatic injuries
<b>Distributed Measurement of Conductor Temperatures in Mine Trailing Cables Using Fiber-Optic Technology</b> Dubaniewicz-TH Jr; Kovalchik-PG; Scott-LW; Fuller-MA   IEEE Transactions on Industry Applications, Institute of Electrical & Electronics Engineers, Inc., 34(2), 1998 Mar; :395-398	1998	Publication	Mine disasters; Traumatic injuries
<b>Distributed Measurement of Conductor Temperatures in Mine Trailing Cables Using Fiber-Optic Technology</b> Dubaniewicz-TH Jr; Kovalchik-PG; Scott-LW; Fuller-MA   In: Proceedings of the 1996 IEEE Industry Applications Society 31st Annual Meeting, Vol. 4, San Diego, CA, 1996; :2480-2483	1996	Publication	Traumatic injuries
<b>Diverse Tectonism in the Coeur d'Alene Mining District</b> White-BG   Butte, MT: Montana Bureau of Mines and Geology, Spec. Pub. 112, pp. 254-265	1997	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Drill Monitor With Strata Strength Classification in Near-Real Time</b> Utt-WK; Miller-GG; Howie-WL; Woodward-CC   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-141, Report of Investigations 9658, 2002 Jul :1-14	2002	Publication	Ground control; Traumatic injuries
<b>Drill Rig Incident</b> Barrett-EA; Calhoun-RA   DHHS (NIOSH) Publication No. 2005-108, IC 9473, 2005 Feb; :1-51	2005	Publication	Hearing loss; Surveillance and training
<b>Dust Control at Yucca Mountain Project</b> Kissell-FN; Juran-R; Dresel-R; Reaux-C   In: Proceedings of the Eighth U.S. Mine Ventilation Symposium, Tien JC, ed., Rolla, MO, University of Missouri-Rolla Press, 1999; :203-208	1999	Publication	Respiratory diseases
<b>Dust Control Considerations for Deep-Cut Faces when Using Exhaust Ventilation and a Flooded-Bed Scrubber</b> Colinet-JF; Jankowski-RA   SME preprint 97-48, 1997	1997	Publication	Respiratory diseases
<b>Dust Control Considerations for Deep-Cut Mining when Utilizing Exhaust Ventilation and a Scrubber</b> Colinet-JF; Jankowski-RA   Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, Report of Investigations 9615. NTIS stock number: PB96-147798, 1996	1996	Publication	Respiratory diseases
<b>Dust Control Methods in Tunnels and Underground Mines</b> Kissell-FN   J Mine Vent Soc S Afr 55(4), 2002; :129-137	2002	Publication (guidelines)	Respiratory diseases
<b>Dust Detector Tube</b> Volkwein-J; Page-S; Dobroski-H   U.S. Patent #6,401,520 EP 0 993 599 B1 (granted June, 2002), Australia Patent #738972 (granted January 16, 2002)	2002	Patent	Respiratory diseases
<b>Dust Explosions Overview</b> Cashdollar-KL   In: Proceedings of the International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions; Eighth International Colloquium on Dust Explosions. Schaumburg, IL: Safety Consulting Engineers, Inc., 1998; :1-25	1998	Publication	Mine disasters
<b>Dust Underfoot: Enclosed Cab Floor Heaters Can Significantly Increase Operator's Respirable Dust Exposure</b> Cecala-AB; Organiscak-JA; Heitbrink-WA   Rock Products 2001 Apr; 104(4):39-44	2001	Publication	Respiratory diseases
<b>Dusting Off: NIOSH Develops a New Method to Clean Dust-Soiled Work Clothes</b> Pollock DE, Cecala AB, O'Brien AD, Zimmer JA, Howell JL   Rock Prod 108(3), 2005; :30-34	2005	Publication	Respiratory diseases
<b>Dynamic Temperature Measurement of Overheated Shuttle Car Trailing Cables in Underground Coal Mines</b> Kovalchik-PG; Scott-LW; Dubaniewicz-TH; Duda-FT   SME preprint 98B21. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1998	1998	Publication	Traumatic injuries
<b>Dynamic Temperature Measurement of Overheated Shuttle Car Trailing Cables in Underground Coal Mines</b> Kovalchik-PG; Scott-LW; Dubaniewicz-TH; Duda-FT   Trans Soc Min Metal Explor, 1999 306:1-4	1999	Publication	Traumatic injuries
<b>Economic Consequences of Mining Injuries</b> Camm-T; Dwyer-J   Presentation at annual meeting of Society for Mining, Metallurgy, and Exploration, Denver, CO, Feb. 23-25, 2004. Preprint 04-37, 2004 Feb; : 5 pp	2004	Publication	Surveillance and training
<b>Economic Consequences of Mining Injuries</b> Camm-T; Dwyer-J   Mining Engineering Magazine, Vol 57, No. 9, pp. 89-92, September 2005	2005	Publication	Surveillance and training
<b>Economics of Safety at Surface Mine Spoil Piles</b> Camm-TW   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2000-129, Report of Investigations 9653, 2000 Jul :1-14	2000	Publication	Surveillance and training

Title	Year	Output Type	Strategic Goal
<b>Effect of the Dip and Excavation Orientation on Roof Stability in Moderately Dipping Stone Mine Workings</b> Esterhuizen-GS; Iannacchione-AT   Proceedings of the 40th U.S. Symposium on Rock Mechanics, ARMA/USRMS paper 05-743, Anchorage, AK, June 27-29, 2005; :8 pp	2005	Publication	Ground control
<b>Effect of Three-Winding Transformer Models on the Analysis and Protection of Mine Power Systems</b> Oommen-MP; Kohler-JL   IEEE Trans Ind Appl, 35(3), 1999; :670-674	1999	Publication	Traumatic injuries
<b>Effective Control of Respirable Dust in Underground Coal Mines in the United States</b> Colinet-JF; Goodman-GVR; Listak-JM; Chekan-GJ; Rider-JP; Pollock-DE; Thimons-ED   In: Gillies ADS, ed. Proceedings of Eighth International Mine Ventilation Congress (Brisbane, Australia), AusIMM, Victoria, Australia, 2005; :129-134	2005	Publication	Respiratory diseases
<b>Effective Prevention of Hearing Loss in Miners</b> Grayson-RL   Holmes Safety Association Bulletin, 1999 Jan; :3-5	1999	Publication	Hearing loss
<b>Effects of Alternative Fuels on Concentrations of Nanometer and Ultrafine Particles in Underground Mine</b> Bugarski-AD; Mischler-S; Schnakenberg-GH Jr   In: Proceedings of the Ninth ETH Conference on Combustion-Generated Nanoparticles (Aug. 15-17, 2005; Zurich, Switzerland)	2005	Publication	Respiratory diseases
<b>Effects of Bolt Spacing, Bolt Length, and Roof Span on Bolt Loading in a Trona Mine</b> Signer-SP; Rains-R   20th Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :302-308	2001	Publication	Ground control
<b>Effects of Far-Field Shearing Deformation on Fracturing Around an Underground Opening</b> Larson-MK; White-BG; Iverson SR   Proceedings of the 39th Symposium on Engineering Geology and Geotechnical Engineering: Research to Practice, May 18-19, 2004. M. McLaughlin and R. McNearny, eds., Butte, MT: Montana Tech of the University of Montana, 2004 May; :293-307	2004	Publication	Ground control
<b>Effects of Lifting in Four Restricted Postures</b> Gallagher-S; Unger-RL; Rossi-EW   Ergonomics and Musculoskeletal Disorders: Research on Manual Materials Handling, 1983-1996, Karwowski-W; Wogalter-MS; Dempsey-PG, eds., Human Factors and Ergonomics Society, 1997; :56-60	1997	Publication	Cumulative injuries
<b>Effects of Load and Posture on the Recruitment of Trunk Muscles</b> Gallagher-S; Marras-WS; Davis-KG   In: Proceedings of the Human Factors and Ergonomics Society 46th Annual Meeting, September 30 - October 4, 2002, Baltimore, MD, 2002; :1071-1075	2002	Publication	Cumulative injuries
<b>Effects of Mining Height on Injury Rates in U.S. Underground Nonlongwall Bituminous Coal Mines</b> Fotta-B; Mallett-LG   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 98-104, Information Circular 9447, 1997 Nov :1-32	1997	Publication	Surveillance and training
<b>Effects of Posture on Back Strength and Lifting Capacity</b> Gallagher-S; Bobick-TG   Ergonomics and Musculoskeletal Disorders: Research on Manual Materials Handling, 1983-1996, W Karwowski; MS Wogalter; PG Dempsey, eds., 1997 Sep; :37-41	1997	Publication	Cumulative injuries
<b>Effects of Posture on Dynamic Back Loading During a Cable Lifting Task</b> Gallagher-S; Marras-WS; Davis-KG; Kovacs-K   Ergonomics, 2002 45(5), 2002; :380-398	2002	Publication	Cumulative injuries
<b>Effects of Water Sprays and Scrubber Exhaust on Face Methane Concentrations</b> Taylor-CD; Zimmer-JA   In: S Wasilewski, ed. Proc Seventh Intl Mine Ventilation Congress, 2001, Krakow, Poland :465-470	2001	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Effects of Water Sprays Used With a Machine-Mounted Scrubber on Face Methane Concentrations</b> Taylor-CD; Zimmer-JA   Proc Seventh International Mine Ventilation Congress, 2001, S Wasilewski, ed. Krakow, Poland :465-470	2001	Publication	Mine disasters
<b>Electrical Accidents in the Mining Industry, 1990-1999</b> Cawley-JC   IEEE Trans Ind Appl 2003 Nov/Dec, 39(6; ):1570-1577	2003	Publication	Traumatic injuries
<b>Electrical Accidents in the Mining Industry, 1990-1999</b> Cawley-JC   SME preprint 02-007. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc, 2002	2002	Publication	Traumatic injuries
<b>Electrical Accidents in the Mining Industry, 1990-1999</b> Cawley-JC   In: Conference Record of the 2001 IEEE Industry Applications Conference, 36th IAS Annual Meeting (Chicago, IL), 2001	2001	Publication	Traumatic injuries
<b>Electrical Fault Detection on Downed DC Trolley Lines</b> Peterson-JS; Cole-GP   SME Preprint 97-38, 1997 :1-5	1997	Publication	Traumatic injuries
<b>Electrical Safety for Water Well Drillers</b> Homce-GT; Cawley-JC; Yenchek-MR   Water Well Journal, 59(8); :12,14	2005	Publication	Traumatic injuries
<b>Electrically Excited Vibrations for Condition Monitoring of Synchronous Machine Windings: An Experimental Study</b> Trutt-FC; Sottile-J; Kohler-JL   In: Proceedings of the 23rd Annual Meeting of the Vibration Institute, 1999; :85-91	1999	Publication	Traumatic injuries
<b>Elements from Comprehensive Safety Programs in General Industry Could Benefit Independent Contractors Working in the Mining Industry - Part I</b> Barrett-EA; Rethi-LL; Fotta-B   Holmes Safety Association Bulletin, 1996 Mar; :1-6	1996	Publication	Surveillance and training
<b>Elements from Comprehensive Safety Programs in General Industry Could Benefit Independent Contractors Working in the Mining Industry - Part II</b> Barrett-EA; Rethi-LL; Fotta-B   Holmes Safety Association Bulletin, 1996 Apr; :1-6	1996	Publication	Surveillance and training
<b>Emergency Response Command Center Training Using Computer Simulation</b> Brnich-M; Mallett-L; Reinke-D; Vaught-C   In: 33rd Annual Institute on Mining Health, Safety, and Research Conference Proceedings, Roanoke, VA, August 11-13, 2002	2002	Publication	Mine disasters; Surveillance and training
<b>Emergency Response Veterans Share the Lessons They've Learned</b> Mallett-L; Vaught-C; Brnich-MJ Jr   Holmes Safety Association Bulletin, 1996 Oct; :5-8	1996	Publication	Mine disasters
<b>Emerging Technologies and the Future of Geotechnical Instrumentation</b> Girard-JM; McHugh-EL   Rock Mechanics in the National Interest. Vol. I, Lisse, Netherlands: A. A. Balkema, 2001 Jul; 1:445-450	2001	Publication	Ground control
<b>Emerging Technologies in Underground Coal Mining</b> Mitchell-Dubaniewicz-J   In: Chiang S, ed. Proceedings of the 15th Annual International Pittsburgh Coal Conference, Pittsburgh, PA: Pittsburgh Coal Conference, 1998	1998	Publication	Surveillance and training
<b>Emerging Technologies: Aiding Responders in Mine Emergences and During the Escape From Smoke-Filled Passageways</b> Conti-RS   Proc Northwest Mining Association 107th Annual Meeting, Exposition and Short Courses (December 3-7, 2001; Spokane, WA); :14 pp	2001	Publication	Mine disasters; Surveillance and training
<b>Empirical and Analytical Design of Large Openings at a Proposed National Underground Science Laboratory</b> Zipf-K Jr; Tesarik-D; Johnson-J   In: Syd S. Peng, Christopher Mark, A. Wahab, and Keith Heasley, eds., Proceedings, 21st International Conference on Ground Control in Mining (Aug 6-8, 2002; Morgantown, WV) WV University, Morgantown, WV, 2002 Aug; :318-327	2002	Publication	Ground control

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<b>Empirical Approaches for Opening Design in Weak Rock Masses</b> Brady-T; Martin-L; Pakalnis-R   Mining Technology (Transactions of the Institute for Mining and Metallurgy Section A), 2005, vol. 114, No. 1, March, 2005; :A13-A20	2005	Publication	Ground control
<b>Empirical Approaches for Weak Rock Mass</b> Brady-T; Martin-L; Clark-L   CIM Mining Industry Conference and Exhibition, Montreal, Quebec, Canada: Canadian Institute of Mining, Metallurgy, and Petroleum	2003	Publication	Ground control
<b>Employment, Production, and Fatality Trends in the U.S. Coal Mining Industry</b> Bockosh-GR; Fotta-B; McKewan-WM   Coal Age 107(10), 2002; :18-20	2002	Publication	Surveillance and training
<b>Enhanced Surface Control for Roof and Rib Support</b> Tadolini-SC; Dolinar-DR   In: Peng SS, Mark C, Khair AW, eds. Proceedings of the 20th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :173-179	2001	Publication	Ground control
<b>Enhancing the Safety of Remnant Pillar Recovery in Lignite by Numerical Modeling</b> Aksoy-CO; Kose-H; Yalcin-E; Heasley-KA; Mark-C   CIM Bull 2004	2004	Publication	Ground control
<b>Environmental Impacts of Cemented Mine Waste Backfill</b> Levens-RL; Marcy-AD; Boldt-CMK   US Bureau of Mines, Report of Investigations 9599, 1996:1-22	1996	Publication	Ground control
<b>Equipment Fires Cause Injuries</b> De Rosa-MI   Coal Age 109(10), 2004; :28-31	2004	Publication	Mine disasters
<b>Ergonomic and Existing Seat Designs Compared on Underground Mine Haulage Vehicles</b> Mayton-A.J; Ambrose-DH; Jobes-CC; Kittusamy-NK   In: Proceedings of the Human Factors and Ergonomics Society 47th Annual Meeting (Denver, CO; Oct. 13-17, 2003). Santa Monica, CA: Human Factors and Ergonomics Society; :1256-1260	2003	Publication	Cumulative injuries; Traumatic injuries
<b>Ergonomic Assessment of Musculoskeletal Risk Factors at Four Mine Sites: Underground Coal, Surface Copper, Surface Phosphate, and Underground Limestone</b> Wiehagen-WJ; Turin-FC   NIOSH Publication No. 2004-159, Information Circular 9475, 2004 Aug :1-38	2004	Publication	Cumulative injuries
<b>Ergonomic Issues in Mining</b> Gallagher-S   In: Karwowski W, Marras WS, eds. The Occupational Ergonomics Handbook, Boca Raton, FL, CRC Press LLC, 1999; :1893-1915	1999	Publication	Cumulative injuries
<b>Ergonomic Risk Factors: a Study of Heavy Earthmoving Machinery Operators</b> Kittusamy-NK   Professional Safety: Journal of American Society of Safety Engineers, 2002 Oct	2002	Publication	Cumulative injuries
<b>Ergonomic Seat With Viscoelastic Foam Reduces Shock on Underground Mobile Equipment</b> Mayton-AG; Gallagher-S; Merkel-R   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Apr; :12-13	1998	Publication	Cumulative injuries; Traumatic injuries
<b>Ergonomic Seat With Viscoelastic Foam Reduces Shock on Underground Mobile Equipment</b> Mayton-AG; Gallagher-S; Merkel-R   In: B. Das; W. Karwowski, eds., Advances in Occupational Ergonomics and Safety II, IOS Press and Ohmsha, 1997 Jun; :177-180	1997	Publication	Cumulative injuries; Traumatic injuries
<b>Ergonomics Considerations for Reducing Cumulative Trauma Exposure in Underground Mining</b> Cornelius-KM; Turin-FC   In: W. Karwowski, ed. International Encyclopedia of Ergonomics and Human Factors, 2001, Vol. III, London, United Kingdom, Taylor & Francis, Inc. 2001; :1497-1500	2001	Publication (guidelines)	Cumulative injuries
<b>Estimate of Technically Feasible DPM Levels for Underground Metal and Nonmetal Mines</b> Schnakenberg-GH Jr   Min Eng, 53(9), Sep 2001:45-51	2001	Publication	Respiratory diseases



Title	Year	Output Type	Strategic Goal
<b>Estimated Sound Power Radiated by Surfaces on a Continuous Miner Tail Section Using Vibration Measurements</b> Yantek-DS   NOISE-CON 2003. Ames, IA: Institute of Noise Control Engineering of the USA, 2003 Jun; :1-9	2003	Publication	Hearing loss
<b>Estimating Low Back Loads of Underground Mine Roof Bolter Operators Using Digital Human Simulations</b> Ambrose-HD; Cole-GP; Gallagher-S   In : Proceedings of the Digital Human Modeling for Design and Engineering Symposium (Rochester, MI, June 15-17, 2004). Warrendale, PA: Society of Automotove Engineers, Inc., technical paper 2004-01-2148, 204; :1-6	2004	Publication	Cumulative injuries
<b>Evaluating Factors Affecting the Performance of Three-Axis Ultrasonic Anemometers</b> Taylor-CD; Chilton-JE; McWilliams-LJ; Senk-MJ   Mine ventilation: Proc 10th U.S./North American Mine Ventilation Symposium, Anchorage, Alaska, May 16-19, 2004. Leiden, Netherlands: Balkema, 2004 May; :465-470	2004	Publication	Mine disasters
<b>Evaluating Longwall Dust Sources and Controls</b> Rider-JP; Colinet-JF; Listak-JM; Chekan-GJ   World Coal, 2001 10(10), 2001; :71-76	2001	Publication	Respiratory diseases
<b>Evaluating Performance Characteristics of Machine-Mounted Methane Monitors by Measuring Response Time</b> Taylor-CD; Chilton-JE; Mal-T   In: De Souza E, ed. Proc North American/Ninth U.S. Mine Ventilation Symposium. Lisse, The Netherlands: Balkema, 2002; :315-321.	2002	Publication	Mine disasters
<b>Evaluating Techniques for Monitoring Rock Falls and Slope Stability</b> McHugh-E; Girard-J   21st Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :335-343	2002	Publication	Ground control
<b>Evaluating the Ventilation of a 40-Foot Two-Pass Extended Cut</b> Thimons-ED; Taylor-CD; Zimmer-JA   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-138, Report of Investigations 9648, 1999	1999	Publication	Mine disasters
<b>Evaluating Ventilating Air Movement in Underground Limestone Mines by Monitoring Respirable Dust Generated from Production Shots</b> Chekan-GJ; Colinet-JF; Grau-RH III   In: Ganguli R, Bandopadhyay S, eds. Mine ventilation: Proceedings of the 10th U.S./North American Mine Ventilation Sympsoim (Anchorage, AK, May 16-19, 2004). Leiden, Netherlands: Balkema,2004; :221-232	2004	Publication	Mine disasters; Respiratory diseases
<b>Evaluating Ventilation Parameters For Extended-Cut Mining</b> Rider-JP; Taylor-CD; Zimmer-JA   SME preprint 97-148, 1997	1997	Publication	Mine disasters
<b>Evaluation of a Continuous Haulage Guidance Sensor</b> Sammarco-JJ   In: Gurgenci H, Hood M, eds. Proceedings of the Fourth International Symposium on Mine Mechanisation and Automation, Vol. 2, Brisbane, Queensland, Australia, 1997; :B6-21 to B6-32	1997	Publication	Traumatic injuries
<b>Evaluation of a Local Exhaust Ventilation System for Controlling Refractory Ceramic Fibers During Disc Sanding</b> Dunn-KH; Shulman-SA; Cecala-AB; Venturin-DE   J Occup Environ Hyg 2004. 2004 Oct 1(10):D107-111	2004	Publication	Mine disasters
<b>Evaluation of a Signaling and Warning System for Underground Mines</b> Conti-RS; Yewen-RG   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 97-127, Report of Investigations 9641 1997 May :1-21	1997	Publication	Mine disasters
<b>Evaluation of a Soybean Oil Based Diesel Fuel in an Underground Gold Mine</b> McDonald-JF; Cantrell-BK; Watts-WF Jr.; Bickel-KL   CIM Bulletin 90(1015); :91-95	1997	Publication	Respiratory diseases

Title	Year	Output Type	Strategic Goal
<b>Evaluation of Barclay Mowlem Cementitious Seals, Stoppings, and Overcast: Final report for memorandum of agreement 98BPRLB03 between NIOSH and Barclay Mowlem Construction Ltd., Moorooka, Queensland, Australia</b> Weiss-ES; Cashdollar-KL; Kohli-DR; Slivensky-WA   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, Pittsburgh Research Laboratory, 1999 Sep	1999	Publication	Mine disasters
<b>Evaluation of Devices to Prevent Construction Equipment Backing Incidents</b> Ruff-TM   SAE Commercial Vehicle Engineering Congress and Exhibition (Oct. 26-28, 2004; Chicago, IL). Paper 2004-01-2725; :10 pp	2004	Publication	Traumatic injuries
<b>Evaluation of Diesel Emission Control Technologies Used in U.S. Underground Coal and Non-Coal Mines</b> Schnakenberg-GH; Bugarski-AD; Mischler-SE; Noll-JD   Proceedings of the 31st Intl Conf of Safety in Mines Res Institutes, Brisbane, Australia, Oct 2-5, 2005; :277-280	2005	Publication	Respiratory diseases
<b>Evaluation of Diesel Particulate Filter Systems and Biodiesel Blends in an Underground Mine</b> Bugarski-A; Schnakenberg-GH Jr; Noll-JD; Mischler-S; Crum-MW; Anderson-R   SME preprint 04-24. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004; :1-13	2004	Publication	Respiratory diseases
<b>Evaluation of Diesel Particulate Filter Systems and Biodiesel Blends in an Underground Mine</b> Bugarski-A; Schnakenberg-GH Jr; Noll-JD; Mischler-S; Crum-MW; Anderson-R   Trans Soc Min Metal Explor. Vol 318. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc.; :27-35	2005	Publication	Respiratory diseases
<b>Evaluation of Dust Exposure to Truck Drivers Following the Lead Haul Truck</b> Reed-WR; Organiscak-JA   SME preprint 05-10. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2005; :1-9	2005	Publication	Respiratory diseases
<b>Evaluation of Engineering Noise Controls for a Continuous Miner Conveyer System</b> Durr-TM; Kovalchik-P; Kwait-E   NOISE-CON. Ames, IA: Institute of Noise Control Engineering of the USA, 2003 Jun; :1-11	2003	Publication	Hearing loss
<b>Evaluation of Explosion-Resistant Seals, Stoppings, and Overcast for Ventilation Control in Underground Coal Mining</b> Weiss-ES; Cashdollar-KL; Sapko-MJ   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2003-104, Report of Investigations 9659, 2002	2002	Publication	Mine disasters
<b>Evaluation of Instrumented Cable and Rebar Bolts as Ground Support at a Trona Mine</b> Martin-LA; Dreesbach-CA; Pakalnis-R   20th Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :309-316	2001	Publication	Ground control
<b>Evaluation of Instrumented Cable Bolts in Cement Grout to Determine Physical and Numerical Modeling Properties</b> Martin-L; Milne-D; Ruest-M; Pakalnis-R   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-133, Report of Investigations 9662, 2004 Apr :1-14	2004	Publication	Ground control
<b>Evaluation of IYONI II Methanometers</b> Chilton-JE; Taylor-CD; Timko-RJ   30th International Conference of Safety in Mines Research Institutes. Johannesburg, Republic of South Africa: South African Institute of Mining and Metallurgy, 2003 Oct; :579-594	2003	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Evaluation of Methods for Controlling Silica Dust Exposures on Roof Bolters</b> Goodman-GVR; Organiscak-JA   2002 Transactions, Society for Mining, Metallurgy, and Exploration, Vol. 312; :133-137	2002	Publication	Respiratory diseases
<b>Evaluation of Mine Seals Using Ground Penetrating Radar</b> Monaghan-WD; Trevits-MA; Sapko-MJ   In: Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP 2005). Denver, CO: Environmental and Engineering Geophysical Society, 2005; :1-14	2005	Publication	Mine disasters
<b>Evaluation of Mining Activities Using a Scenario Interview Approach</b> Turin-F; Steiner-L; Cornelius-K   Proceeding of the Human Factors and Ergonomics Society 42nd Annual Meeting, vol 2,1998 Oct; :1108-1112	1998	Publication	Cumulative injuries
<b>Evaluation of New Methods and Facilities to Test Explosion-Resistant Seals</b> Sapko-MJ; Weiss-ES   In: Proceedings of the 29th International Conference of Safety in Mines Research Institutes. Vol. 1. Katowice, Poland: Central Mining Institute, 2001; :157-166	2001	Publication	Mine disasters
<b>Evaluation of Pillar Recovery in Southern West Virginia</b> Mark-C; Karabin-G; Zelanko-JC; Hoch-MT; Chase-F   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; : 81-89	2002	Publication	Ground control
<b>Evaluation of Polymer Construction Material and Water Trap Designs for Underground Coal Mine Seals</b> Weiss-ES; Slivensky-WA; Schultz-MJ; Stephan-CR; Jackson-KW   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9634. NTIS stock number: PB96-123392, 1996	1996	Publication	Mine disasters
<b>Evaluation of Polyurethane Injection for Beltway Roof Stabilization in a West Virginia Coal Mine</b> Molinda-GM   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining, August 3-5, 2004. Morgantown, WV: West Virginia University, 2004 Aug; :190-196	2004	Publication	Ground control
<b>Evaluation of Reinforced Cementitious Seals</b> Weiss-ES; Cashdollar-KL; Mutton-IVS; Kohli-DR; Slivensky-WA   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 99-136, Report of Investigations 9647, 1999	1999	Publication	Mine disasters
<b>Evaluation of Systems to Monitor Blind Areas Behind Trucks Used in Road Construction and Maintenance: Phase 1</b> Ruff-TM   NIOSH Report of Investigations 9660, 2003 Feb; :1-15	2003	Publication	Traumatic injuries
<b>Evaluation of Techniques for Protecting Dust Sampling Equipment in Harsh Environments</b> Goodman-GVR; Spencer-ER   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9627. NTIS stock number: PB96-210810, 1996	1996	Publication	Respiratory diseases
<b>Evaluation of the Bagged Stone Dust Barrier Effectiveness in a Bord and Pillar Mine</b> Du Plessis-JJL; Weiss-ES; Cashdollar-KL   In: Wasilewski S, ed., Proceedings of the Seventh International Mine Ventilation Congress (June 17-22, 2001, Crakow, Poland), chapter 81, :573-580	2001	Publication	Mine disasters
<b>Evaluation of the Impact of Standing Support on Ground Behavior in Longwall Tailgates</b> Barczak-TM; Esterhuizen-GS; Dolinar;DR   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 24th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2005; :23-32	2005	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Evaluation of the Respirable Dust Dosimeter for Real-Time Assessment if Airborne Respirable Coal Mine Dust Exposures</b> Ramani-JM; Mutmansky-JM; He-H; Marple-VA; Olson BA; Luna-PC; Volkwein-JC   In: De Souza E, ed. Proceedings of the North American/Ninth U.S. Mine Ventilation Symposium (Kingston, Ontario, Canada). Lisse, Netherlands: Balkema, 2002; : 579-586	2002	Publication	Respiratory diseases
<b>Evaluation of the SKC® DPM Cassette for Monitoring Diesel Particulate Matter in Coal Mines</b> Noll-JD; Birch-E   J Environ Monit 2004 Dec; 6(12):973-978	2004	Publication	Respiratory diseases
<b>Evaluation of Two Portable Lead-Monitoring Methods at Mining Sites</b> Drake-PL; Lawryk-NJ; Ashley-K; Sussell-A; Hazelwood-KJ; Song-R   Journal of Hazardous Materials, 2003, 102(1), 2003; :29-38	2003	Publication	Surveillance and training
<b>Evaluation of Two-Phase Spray System for Airborne Dust Control in a Longwall Gallery</b> Belle-GK; Ramani-RV; Colinet-JF   Proc 12th Intl Conf on Coal Research, Sandton, Republic of South Africa, Sep 12-15, 2000 Wash, DC International Conference on Coal Research, 2000 Sep; :113-119	2000	Publication	Respiratory diseases
<b>Evaluation of Water Trap Designs and Alternative Mine Seal Construction Materials</b> Weiss-ES; Slivensky-WA; Schultz-MJ; Stephan-CR   In: Dhar BB, Bhowmick BC, eds. Proceedings of the 27th International Conference of Safety in Mines Research Institutes Vol. 2, New Delhi, India: Oxford & IBH Publishing Co. Pvt. Ltd., 1997; :973-981	1997	Publication	Mine disasters
<b>Examination of Person-Wearable Methane Monitors</b> Chilton-JE; Taylor-CD; Hall-EE; Yantek-DS   In: Gillies ADS, ed. Proceedings of Eighth International Mine Ventilation Congress (Brisbane, Australia), AusIMM, Victoria, Australia, 2005; :189-195	2005	Publication	Respiratory diseases
<b>Expectations versus Experience: Training Lessons Based Upon Miners' Difficulties when Using Emergency Breathing Apparatus</b> Vaught-C; Mallett-LG; Brnich-MJ Jr; Peters-RH   J Int Soc Respir Prot 21 (Spring/Summer), 2004; :49-59	2004	Publication	Mine disasters; Surveillance and training
<b>Experimental and Modeling Investigation of the Effect of Ventilation on Smoke Rollback in a Mine Entry</b> Edwards-JC; Franks-RA; Friel-GF; Yuan-L   2005 SME Annual Meeting, February 28 - March 2, Salt Lake City, Utah, preprint 05-14. Littleton, CO, Society for Mining, Metallurgy, and Exploration, Inc., 2005 Feb; :1-6	2005	Publication	Mine disasters
<b>Experimental Investigation of On-Line Methods for Incipient Fault Detection</b> Sottile-J; Trutt-FC; Kohler-JL   Conference Record of the 2000 IEEE Industry Applications Conference--35th IAS Annual Meeting and World Conference on Industrial Applications of Electrical Energy, Rome, Italy, Oct 1-3 2000 Piscataway, New Jersey IEEE., 2000 Oct; :2682-2687	2000	Publication	Traumatic injuries
<b>Experimental Mine and Laboratory Dust Explosion Research at NIOSH</b> Sapko-MJ; Weiss-ES; Cashdollar-KL; Zlochower-IA   J Loss Prev Process Ind 2000 May; 13(3) :229-242	2000	Publication	Mine disasters
<b>Experimental Mine and Laboratory Dust Explosion Research at NIOSH</b> Sapko-MJ; Weiss-ES; Cashdollar-KL; Zlochower-IA   In: Proceedings of the International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions; Eighth International Colloquium on Dust Explosions. Schaumburg, IL: Safety Consulting Engineers, Inc., 1998; :120-142	1998	Publication	Mine disasters
<b>Exposure-Related Health Effects of Silver and Silver Compounds: A Review</b> Drake-PL; Hazelwood-KJ   The Annals of Occupational Hygiene, Vol. 49, No. 7; :575-585	2005	Publication	Surveillance and training
<b>Factors Affecting ANFO Fumes Production</b> Rowland-JH, III; Mainiero-RJ   In: Proceedings of the 26th Annual Conference on Explosives and Blasting Technique (Anaheim, CA, Feb. 13-16, 2000). Vol. 1. Cleveland, OH: International Society of Explosives Engineers, 2000 Feb; :163-174	2000	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Factors Affecting Fumes Production of an Emulsion and ANFO/Emulsion Blends</b> Rowland-JH III; Mainiero-R; Hurd-DA Jr.   Proc 27th Ann Conf Explos Blasting Tech. Vol. II. Cleveland, OH: International Society of Explosives Engineers, 2001; :133-141	2001	Publication	Traumatic injuries
<b>Factors Affecting the Location of Methanometers on Mining Equipment</b> Taylor-CD; Thimons-ED; Zimmer-JA   In: Proc 7th Intl Mine Ventilation Congress, Krakow, Poland, June 17-22, 2001; :683-687	2001	Publication	Mine disasters
<b>Factors Affecting the Location of Methanometers on Mining Equipment</b> Taylor-CD; Thimons-ED; Zimmer-JA   J Mine Vent Soc S Africa 56(1), 2003; :25-29	2003	Publication	Mine disasters
<b>Factors Impacting Respirable Dust Entrainment and Dilution in High-Velocity Airstreams</b> Chekan-GJ; Listak-JM; Colinet-JF   SME preprint 04-10. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004; : 1-7	2004	Publication	Respiratory diseases
<b>Factors Impacting Respirable Dust Entrainment and Dilution in High-Velocity Airstreams</b> Chekan-GJ; Listak-JM; Colinet-JF   Society for Mining, Metallurgy, and Exploration, Inc., Littleton, CO, Transactions 2004, Vol. 316 2004	2004	Publication	Respiratory diseases
<b>Factors Influencing Intersection Stability in U.S. Coal Mines</b> Molinda-G; Mark-C; Bauer-E; Babich-D; Pappas-D   In: Proceedings of the 17th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, WV: University of West Virginia, 1998 Aug; pp. 267-275	1998	Publication	Ground control
<b>Failure Characteristics of Roof Falls at an Underground Stone Mine in Southwestern Pennsylvania</b> Iannacchione-AT; Marshall-TE; Prosser-LJ, Jr   In: Peng SS, Mark C, Khair AW, eds. Proceedings of the 20th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :119-125	2001	Publication	Ground control
<b>Failure Mechanics of Multiple Seam Mining Interactions</b> Zipf-RK   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 24th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :93-106	2005	Publication	Ground control
<b>Fatal Accidents Due to Flyrock and Lack of Blast Area Security and Working Practices in Mining</b> Bajpayee-TS; Bhatt-SK; Rehak-TR; Mowrey-GL; Ingram-DK   J Mines Met Fuels 2003 Nov-Dec; 51(11/12), 2003; :344-350	2003	Publication	Traumatic injuries
<b>Feasibility of Using Laser-Based Vibration Measurements to Detect Roof Fall Hazards in Underground Mines</b> Swanson-P   In: Proceedings of the Fifth International Conference on Vibration Measurement by Laser Techniques: Advances and Applications. Bellingham, WA: International Society for Optical Engineering (SPIE), Vol. 4827, 2002 :541-552	2002	Publication	Ground control
<b>Feasibility Study to Reduce Injuries and Fatalities Caused by Contact of Cranes, Drill Rigs, and Haul Trucks with High-Tension Lines</b> Sacks-HK; Cawley-JC; Homce-GTR; Yenchek-MR   IEEE Trans Ind Appl, 37(3), 2001; :914-919	2001	Publication	Traumatic injuries
<b>Feasibility Study to Reduce Injuries and Fatalities Caused by Contact of Cranes, Drill Rigs, and Haul Trucks with High-Tension Lines</b> Sacks-HK; Cawley-JC; Homce-GT; Yenchek-MR   In: Proceedings of the IEEE Industry Applications Conference, 34th IAS Annual Meeting (Phoenix, AZ, October 3-7, 1999); :240-248	1999	Publication	Traumatic injuries
<b>Feeding the Multitudes - How to Connect With Customers</b> Cullen-ET   Presentation at 108th annual exhibit and meeting, Society for Mining, Metallurgy, and Exploration, Denver, CO, Feb. 26-28, 2001; :6 pp	2001	Publication	Surveillance and training

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Field Assessment of Control Techniques and Long-Term Dust Variability for Surface Coal Mine Rock Drills and Bulldozers Organiscak-JA; Page-SJ   International Journal of Surface Min Reclam Environ, 13 1999; :165-172	1999	Publication	Respiratory diseases
Field Assessment of Retrofitting Surface Coal Mine Equipment Cabs with Air Filtration Systems Organiscak-JA; Cecala-AB; Heitbrink-WA; Thimons-ED; Schnitz-M; Ahrenholtz-E   Proc 31st Annual Institute of Mining Health, Safety and Research, 2000, Aug 27-30 Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering, 2000 Aug; :57-68	2000	Publication	Respiratory diseases
Field Evaluation of Diesel Particulate Filters: Size-Selective Measurements of Aerosols in Mine Air and Engine Exhaust Bugarski-AD; Schnakenberg-GH Jr   In: Proceedings of the Mining Diesel Emissions Conference (Markham, Ontario, Canada)	2001	Publication	Respiratory diseases
Field Evaluation of Mobile Roof Support Technologies Maleki-H; Owens-J; Endicott-M   Paper in Proceedings: 20th International Conference on Ground Control in Mining, ed. By Syd S. Peng, Christopher Mark, and A. Wahab Khair (Morgantown WV, Aug. 7-9, 2001). WV University, Morgantown, WV, 2001; :67-77	2001	Publication	Ground control
Field Method for the Determination of Insoluble Hexavalent Chromium in Workplace Air Hazelwood-K; Drake-P; Ashley-K; Marcy-AD   Journal of Occupational and Environmental Hygiene, 2004, Vol. 1; :613-619	2004	Publication	Surveillance and training
Field Performance Testing of Fully Grouted Roof Bolts Mark-C; Compton-CS; Dolinar-DR; Oyler-DC   2003 SME Annual Meeting, Feb 24-26, Cincinnati, Ohio, preprint 03-138. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2003 Feb; :1-8	2003	Publication	Ground control
Field Portable Measurement of Airborne Beryllium, Chromium, Lead and Other Metals: Instruments, Methods and Future Direction Lawryk-NJ; Ashley-K; Drake-PL   The Synergist, 2005, 16(5):54-61	2005	Publication	Surveillance and training
Field Studies of Carbon Monoxide Migration from Blasting Harris-ML; Sapko-MJ; Mainiero-RJ   Proc 31st Ann Conf Explos Blasting Tech, Orlando, FL, February 6-9, 2005, 2005 Feb; :21 pp	2005	Publication	Traumatic injuries
Field Study to Evaluate the Effectiveness of a Continuous Passive Lumbar Motion System Kittusamy-NK; Viswanathan-M; Jorgensen-MJ   XIX Annual International Occupational Ergonomics and Safety Conference 2005, Las Vegas, NV; :1-6	2005	Publication	Cumulative injuries; Traumatic injuries
Field Test with Strain-Gauged Friction Bolts at the Gold Hunter Mine, Mullan, Idaho, USA Johnson-J; Williams- T; Sunderman-C; Signer-S; Bayer-D   In: S. S. Peng, C. Mark, A. Wahab Khair, and K. Heasley, eds., Proceedings: 22nd International Conference on Ground Control in Mining (Aug. 5-7, 2003; Morgantown WV), Dept. of Mining Engineering, West Virginia University, 2003 Aug; :233-239	2003	Publication	Ground control
Field Tests of Cable Bolts Using Instrumented King Wires Martin-L; Pakalnis-R; Curtin-R   Presentation at the Canadian Institute of Mining, Metallurgy, and Petroleum--CIM 2000 Meeting, 2000, Mar 5-10 Toronto, Ontario, Canada :1-10	2000	Publication	Ground control
Field-Scale Void Detection in Coal Piles Using Resistivity Imaging Rodriguez-R; Rodriguez-H; Lhamond-M; Johnson-JJ; Iverson-S   In: Hammah R, Bawden W, Curran J, Telesnicki M, eds. NARMS-TAC 2002: Mining and Tunnelling Innovation and Opportunity, Vol. 1 (Toronto, ON, July 7-10, 2002). Toronto, ON: University of Toronto; :415-419	2002	Publication	Ground control
Filtered Recirculation: A Critical Component to Maintaining Acceptable Air Quality in Enclosed Cabs for Surface Mining Equipment Cecala-AB; Zimmer-JA   In: Ganguli R, Bandopadhyay S, eds. Mine ventilation: Proceedings of the 10th U.S./North American Mine Ventilation Symposium (Anchorage, AK, May 16-19, 2004). Leiden, Netherlands: Balkema, 2004 May; :377-387	2004	Publication	Respiratory diseases

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<b>Fire Protection Provided by Detonator Containers</b> Santis-LD   Proceedings of the 23rd Annual Conference on International Society of Explosives Engineers, 1997 :487-498	1997	Publication	Mine disasters
<b>Fire Response Preparedness for Underground Mines</b> Conti-RS; Chasko-LL; Wiehagen-WJ; Lazzara-CP   Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. , NIOSH IC 9481	2005	Publication	Mine disasters
<b>FLAC Simulation of Split-Pipe Tests on an Instrumented Cable Bolt</b> Ruest-M; Martin-L   Presentation at Canadian Institute of Mining annual conference, Vancouver, BC, 2002 Apr; :9 pp.	2002	Publication	Ground control
<b>Flammability Limit Measurements for Dusts in 20-L and 1-m3 Vessels</b> Going-JE; Chatrathi-K; Cashdollar-KL   Journal of Loss Prevention in the Process Ind, 13(3), 2003 May; :209-219	2000	Publication	Mine disasters
<b>Flammability Limit Measurements for Dusts in 20-L and 1-m3 Vessels</b> Going-JE; Chatrathi-K; Cashdollar-KL   In: Proceedings of the International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions; Eighth International Colloquium on Dust Explosions. Schaumburg, IL: Safety Consulting Engineers, Inc.,1998; :95-119	1998	Publication	Mine disasters
<b>Flammability of Gas Mixtures Containing Volatile Organic Compounds and Hydrogen</b> Liekhus-K; Zlochower-IA; Cashdollar-KL; Djordjevic-S; Loehr-C   Journal of Loss Prevention in the Process Indus 13(3-5) 2000 May; :377-384	2000	Publication	Mine disasters
<b>Flammability of Methane, Propane, and Hydrogen Gases</b> Cashdollar-KL; Zlochower-IA; Green-GM; Thomas-RA; Hertzberg-M   Journal of Loss Prevention in the Process Industries, 13(3-5), 2000 May; :327-340	2000	Publication	Mine disasters
<b>Flammability of Methane, Propane, and Hydrogen Gases</b> Cashdollar-KL; Zlochower-IA; Green-GM; Thomas-RA; Hertzberg-M   In: Proceedings of the International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions; Colloquium on Gas, Vapor, Hybrid, and Fuel-Air Explosions. Schaumburg, IL: Safety Consulting Engineers, Inc., 1998; :77-101	1998	Publication	Mine disasters
<b>Flammability of Noise Abatement Materials Used in Cabs of Mobile Mining Equipment</b> Litton-CD; Mura-KE; Thomas-RA; Verakis-HC   Proc: Fire & Materials 2003. London: Interscience Communications, 2003 Feb; :297-306	2003	Publication	Mine disasters
<b>Flyrock Issues in Blasting</b> Rehak-TR; Bajpayee-TS; Mowrey-GL; Ingram-DK   Proc 27th Ann Conf Explos Blasting Tech, ISEE, Cleveland, Ohio, 2001 Feb, 1:165-175	2001	Publication	Traumatic injuries
<b>Focus on Ground Control: Horizontal Stress</b> Mark-C   Coal Age 106(3):47-51	2001	Publication	Ground control
<b>Focus on Prevention: Conducting a Fire Risk Assessment</b> Mallett-L; Brnich-MJ   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-155, 1999 Oct :1-6	1999	Publication	Mine disasters; Surveillance and training
<b>Focus on Prevention: Conducting a Hazard Risk Assessment</b> Brnich-MJ Jr; Mallett-LG   DHHS (NIOSH) Publication No. 2003-139, 2003 Jul; :1-7	2003	Publication	Mine disasters
<b>Forecasting Roof Falls with Monitoring Technologies - A Look at the Moonee Colliery Experience</b> Iannacchione-AT; Bajpayee-TS; Edwards-JL   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 24th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :44-51	2005	Publication	Ground control



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<b>Fractal Properties of Smoke Produced from Smoldering and Flaming Fires</b> Litton-C   Proceedings, ASME International Mechanical Engineering Conference and Exposition, HTD Volume 352; 119-134	1997	Publication	Mine disasters
<b>Fragmentation Method: A Ground Control Tool</b> Girard-J; Whyatt-JK; Johnson-J; White-B   Mining Engineering Magazine, Vol 57, No.3, pp. 37-42, March 2005.	2005	Publication	Ground control
<b>Fugitive Carbon-Based Gases: Blasting Related or Not</b> Eltschlager-KK; Harris-ML; Baldassare-F   In: Proceedings of the 30th Annual Conference on Explosives and Blasting Technique (New Orleans, LA, Feb. 1-4, 2004). Vol. 1. Cleveland, OH: International Society of Explosives Engineers; :409-418	2004	Publication	Traumatic injuries
<b>Full-scale Performance Evaluation of Mobile Roof Supports</b> Barczak-TM; Gearhart-DF   In: Proceedings of the 16th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, WV: West Virginia University, 1997; :211-220	1997	Publication	Ground control
<b>Full-Scale Testing of the Float Dust Deposition Meter</b> Cortese-RA; Perlee-HE   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 98-139, Report of Investigations 9643, 1998 May; :1-10	1998	Publication	Respiratory diseases
<b>Future Directions of Mine Health and Safety in the USA</b> Metzler-RW; Tuchman-RJ   In: Proceedings of the Queensland Mining Industry Health and Safety Conference. Yeppoon, Queensland, Australia, 1997; :6-14	1997	Publication	All
<b>Geologic Hazards and Roof Stability in Coal Mines</b> Molinda-GM   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2003-152, IC 9466; 1-33	2003	Publication	Ground control
<b>Geology Roof Control and Mine Design</b> Peng-SS; Finfinger-GL   Coal Age, 2001 Dec :29-31	2001	Publication	Ground control
<b>Geomechanics of Large Stone Structures: A Case History From the Washington National Cathedral</b> Mark-R; Richards-R Jr; Mark-C   In: Rock Mechanics in the National Interest. Proceedings of the 38th U.S. Rock Mechanics Symposium, Vol. II, Lisse, Netherlands: A. A. Balkema, 2001 Jul; :1055-1061	2001	Publication	Ground control
<b>Geomechanics of Reinforced Cemented Backfill in an Underhand Stope at the Lucky Friday Mine, Mullan, Idaho</b> Williams-TJ; Denton-DK; Larson-MK; Rains-RL; Seymour-JB; Tesarik-DR   Spokane, WA: US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2001-138, Report of Investigations 9655, 2001 Jul :1-18	2001	Publication	Ground control
<b>Geophysical Methods to Detect Stress in Underground Mines</b> Scott-DF; Williams-TJ; Tesarik-D; Denton-DK; Knoll-SJ; Jordan-J   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-133, Report of Investigations 9661, 2004 Mar :1-18	2004	Publication	Ground control
<b>Geotechnical Factors Influencing a Time-Dependent Deformation Mechanism Around an Entry in a Dipping Seam</b> Larson-MK; Malek-H   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines 1996; :699-710	1996	Publication	Ground control
<b>Geotechnical Factors Influencing Violent Failure in U.S. Mines</b> Maleki-H; White-BG   In: E. Broch, A. Myrvang, G. Stjern, eds. Proc Intl Symp on Rock Support: Applied Solutions for Underground Structures; :208-221	1997	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Getting Through to Greenhorns: Do Old Training Styles Work with New Miners?</b> Mallett-L; Reinke-D; Brnch-MJ, Jr   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :9-12	2002	Publication	Surveillance and training
<b>Getting to Zero-The Human Side of Mining</b> Cullen-ET; Camm-TW; Jenkins-FM; Mallett-L   U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Spokane Research Laboratory, Spokane, WA, DHHS (NIOSH) Publication No. 2006-112, Information Circular # 9484, November, 2005; :1-32	2005	Publication	Surveillance and training
<b>GPS-Based Proximity Warning System for Mining and Construction Equipment</b> Holden-T; Ruff-T   In Proceedings of the 14th International Technical Meeting of the Satellite Division of the Institute of Navigation (ION GPS 2001) (Sept. 11-14, 2001, Salt Lake City, UT). 2001; :517-525	2001	Publication	Traumatic injuries
<b>Ground Conditions and the May 13, 1994, Rock Burst, Coeur d'Alene Mining District, Northern Idaho</b> Whyatt-JK.; Williams-TJ; White-BG   In: J. Girard, M. Leibman, C. Breeds, and T. Doe, eds. Pacific Rocks 2000. Rock Around the Rim: Proceedings of the Fourth North American Rock Mechanics Symposium (NARMS 2000) (July 31-Aug. 3, 2000; Seattle WA), Balkema, 2000; :313-318	2000	Publication	Ground control
<b>Ground Control Design for Highwall Mining</b> Zipf-RK   2005 SME Annual Meeting, February 28 - March 2, Salt Lake City, Utah, SME preprint 05-82. Littleton, CO, Society for Mining, Metallurgy, and Exploration, Inc., 2005 Feb; :1-7	2005	Publication	Ground control
<b>Ground Control for Highwall Mining in the U.S.</b> Zipf-RK; Mark-C   International Journal of Surface Mining, Reclamation and Environment 19(3):188-217	2005	Publication	Ground control
<b>Ground Control in South African Coal Mines: A U.S. Perspective</b> Mark-C   In: Proceedings of the 18th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, 1999; :186-193	1999	Publication	Ground control
<b>Ground Control Issues for Safety Professionals</b> Mark-C; Iannacchione-AT   Mine Health and Safety Management, 2001, Nov M. Karmis, Littleton, Colorado: Society for Mining, Metallurgy, and Exploration, Inc., :347-367	2001	Publication	Ground control
<b>Ground Control Worker Safety During Extended Cut Mining</b> Grau-RH III; Bauer-ER   In: Peng SS, ed. Proceedings of the 16th International Conference on Ground Control in Mining, Morgantown, WV: West Virginia University, 1997; :283-288	1997	Publication	Ground control
<b>Groups in Emergency Situations: Behavior and Interaction During Escapes from Mine Fires [Dissertation]</b> Mallett-LG   Lexington, KY: University of Kentucky, Department of Sociology	1998	Publication	Mine disasters
<b>Handbook for Dust Control in Mining</b> NIOSH   NIOSH Pub No. 2003-147, IC 9465, 2003 Jun; :1-131	2003	Publication	Respiratory diseases
<b>HASARD Proximity Warning System</b> Schiffbauer-WH   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/hasardsystem.htm">http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/hasardsystem.htm</a>	2002	Web document	Traumatic injuries
<b>Haulage Truck Dump Site Safety: An Examination of Reported Injuries</b> Turin-FC; Wiehagen-WJ; Jaspal-JS; Mayton-AG   NIOSH Publication No. 2001-124, IC 9454, 2001 Mar :1-23	2001	Publication	Traumatic injuries

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<b>Hazard Evaluation and Technical Assistance Report, HETA-98-0020, Carbon Monoxide Intoxication and Death in a Newly Constructed Sewer Manhole</b> NIOSH   U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH HETA Report No. 98-0020; :1-22	1997	Publication	Traumatic injuries
<b>Hazard Recognition Computer Based Simulation</b> Orr-TJ; Filigenzi-MT; Ruff-TM   In: Jenkins FM, Langton J, McCarter MK, and Rowe B, eds. Proceedings: Thirtieth Annual Institute on Mining Health, Safety, and Research (Salt Lake City, UT, Aug. 8-11, 1999). Blacksburg, VA: Department of Mining and Minerals Engineering, Virginia Polytechnical Institute, 2001 Aug; :21-28	2001	Publication	Surveillance and training
<b>Hazard Recognition Training Program for Construction, Maintenance and Repair Activities</b> Rethi-LL; Flick-JP; Kowalski-KM; Calhoun-RA; Barrett-EA; Cornelius-KM; Haggerty-JJ; Saksena-N   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-158, 1999 Oct :1-78	1999	Publication	Surveillance and training
<b>Hazardous Chemicals Found in Mining - Workshop</b> Scott-DF; Drake-PL   In Proceedings of the Seventh Mine Health and Safety Seminar (Allentown, PA, Jan. 15-16, 2003). 2003; :179-187	2003	Publication	Surveillance and training
<b>Health and Safety Implications of Semiautonomous Longwall Operations</b> Organiscak-JA; Mark-C; Jankowski-RA; Thimons-ED   In: Proceedings of Longwall USA. Pittsburgh, PA, 1996; :1-13	1996	Publication	Ground control
<b>Health and Safety Implications of U.S. Semiautonomous Longwall Operations</b> Organiscak-JA; Mark-C; Jankowski-RA; Thimons-ED   Soc Min Eng preprint 96-51, 1996	1996	Publication	Ground control
<b>Health and Safety Panel Focuses on Industry Change, Research</b> Murphy-JN   Mining Eng 51(6); :66-67	1999	Publication	Surveillance and training
<b>Hearing Loss Among Miners and Measures to Protect Hearing</b> Stephenson-MR; Merry-CJ   Holmes Saf Assn Bull 1998 Oct; :3-5	1998	Publication	Hearing loss
<b>Hearing Protection and Air Rotary Drilling - Part 1</b> Ingram-DK; Jurovcik-P   National Driller. Vol. 26, No. 11, 2005; :10-15	2005	Publication	Hearing loss
<b>Hearing Protection and Air-Rotary Drilling - Part 2</b> Ingram-DK; Jurovcik-P   National Driller. Vol. 26, No. 12, Dec. 2005	2005	Publication	Hearing loss
<b>Hearing Protection Training for Drillers</b> Barrett-EA; Calhoun-RA   National Ground Water Association, Water Well Journal, Volume 59, Number 12, Dec., 2005	2005	Publication	Hearing loss
<b>Heavy Equipment Near Overhead Power Lines? New Safety Research May Save Your Life: New Safety Research May Save Your Life</b> Homce-GT; Cawley-JC; Sacks-HK; Yenchek-MR   Engineering and Mining Journal, (203)4, 2002 Apr :36-39	2002	Publication	Traumatic injuries
<b>High Horizontal Movements in Longwall Gate Roads Controlled by Cable Support Systems</b> Dolinar-DR; Tadolini-SC; Blackwell-DV   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds., Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :497-509	1996	Publication	Ground control

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<b>High Stress Mining Under Shallow Overburden in Underground U.S. Stone Mines</b> Iannacchione-AT; Dolinar-DR; Mucho-TP   In: Proceedings of the First International Seminar on Deep and High-Stress Mining. Nedlands, Australia: Australian Centre for Geomechanics, section 32, 2002 Nov; :1-11	2002	Publication	Ground control
<b>Highlights of the 27th International Conference on Safety in Mines Research Institutes</b> Murphy-JN   Eng & Mining Journal, 199(5), 1998; :32GG-32JJ	1998	Publication	All
<b>High-Tech System to Reduce Forklift Injuries</b> Owens-JK   eNews, Volume 2, Number 2, June 2004, <a href="http://www.cdc.gov/niosh/enews/enewsV2N2.html#s">http://www.cdc.gov/niosh/enews/enewsV2N2.html#s</a>	2004	Web document	Traumatic injuries
<b>Historic Coal Mine Bump Data</b> Iannacchione-AT; Jeran-P   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/groundcontrol/bumps/bumps.htm">http://www.cdc.gov/niosh/mining/topics/groundcontrol/bumps/bumps.htm</a>	2000	Web document	Ground control
<b>Historical Mine Disasters</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/disasters.htm">http://www.cdc.gov/niosh/mining/statistics/disasters.htm</a>	2005	Web document	Surveillance and training
<b>Historical Perspective of Personal Dust Sampling in Coal Mines</b> Kissell-FN; Volkwein-JC; Kohler-J   Mine Ventilation. Lisse, Netherlands: A. A. Balkema, 2002 Oct; :619-623	2002	Publication	Respiratory diseases
<b>Historical Summary of Coal Mine Explosions in the United States, 1981 to 1994</b> Dobroski-H Jr; Stephan-CR; Conti-RS   Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, Information Circular 9440. NTIS stock number: PB96-154687, 1996	1996	Publication	Mine disasters
<b>Horizontal Stress And Longwall Headgate Ground Control</b> Mark-C; Mucho-TP; Dolinar-D   SME preprint 97-187, 1997	1997	Publication	Ground control
<b>Horizontal Stress and Longwall Headgate Ground Control</b> Mark-C; Mucho-TP; Dolinar-D   Min Eng 1998 Jan :61-68	1998	Publication	Ground control
<b>How to Prevent People from Going Under Unsupported Roof</b> Peters-RH   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/groundcontrol/unsupportedroof.htm">http://www.cdc.gov/niosh/mining/topics/groundcontrol/unsupportedroof.htm</a>	2002	Web document	Ground control; Surveillance and training; Traumatic injuries
<b>How To Wear Soft Foam Earplugs</b> Randolph-RF   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/hearingloss/earplug.htm">http://www.cdc.gov/niosh/mining/topics/hearingloss/earplug.htm</a>	2003	Web document	Hearing loss
<b>Human Factors Considerations in Another Hazardous Industry: Mining</b> Bockosh-GR; Peters-RH   In: Proceedings of the International Workshop on Human Factors in Offshore Operations. New Orleans, LA, 1996	1996	Publication	Traumatic injuries
<b>Hydraulic Prestressing Units: An Innovation in Roof Support Technology</b> Barczak-TM; Tadolini-SC; McKelvey-P   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, August 3-5, 2004; :286-294	2004	Publication	Ground control
<b>I Can't Get Enough Air! Proper Self-contained Self-rescuer Usage</b> Brnich-MJ; Vaught-C; Calhoun-RA   National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-160, 1999 Oct; :1-43	1999	Publication	Mine disasters; Surveillance and training

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<b>Ideas to Reduce Roof Fall Injuries</b> USBM   Web document, <a href="http://www.cdc.gov/niosh/mining/safetyideas/ideastoreducerooffallinjuries.htm">http://www.cdc.gov/niosh/mining/safetyideas/ideastoreducerooffallinjuries.htm</a>	1997	Web document	Ground control; Traumatic injuries
<b>Ideas to Reduce WMSDs</b> USBM   Web document; <a href="http://www.cdc.gov/niosh/mining/safetyideas/ideastoreducewmsds.htm">http://www.cdc.gov/niosh/mining/safetyideas/ideastoreducewmsds.htm</a>	1997	Web document	Cumulative injuries
<b>Ignition Hazard From Internally-generated H2 in Sealed Mining Equipment</b> Zlochowier-IA   Eng & Min J, 2001 Jul 202(7): 1 pp	2001	Publication	Traumatic injuries
<b>Ignition of Methane-Air Mixtures by Laser Heated Small Particles</b> Dubaniewicz-TH Jr; Cashdollar-KL; Green-GM; Chaiken-RF   Journal of Loss Prevention in the Process Ind, 2000 May 13(3-5):349-359	2000	Publication	Traumatic injuries
<b>Ignition of Methane-Air Mixtures by Laser-Heated Small Particles</b> Dubaniewicz-TH Jr.; Cashdollar-KL; Gregory-GM; Chaiken-RF   In: Proceedings of the International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions; Colloquium on Gas, Vapor, Hybrid, and Fuel-Air Explosions. Schaumburg, IL: Safety Consulting Engineers, Inc., 1998; :218-236	1998	Publication	Traumatic injuries
<b>Ignition of Methane-Air Mixtures by Laser-Heated Small Particles</b> Dubaniewicz-TH Jr.; Cashdollar-KL; Gregory-GM; Chaiken-RF   In: Proceedings of ISA - Expo 98, International Conference and Exposition for Advancing Measurement and Control Technologies, Products, and Services	1998	Publication	Traumatic injuries
<b>Ignition Tests With a Fiber-Optic Powered Instrument</b> Dubaniewicz-TH Jr; Cashdollar-KL; Green-GM; Cucci-GR   Proc 41st Annual ISA Analysis Div. Symposium, 1996, Framingham, Massachusetts, 29, 1996; :175-184	1996	Publication	Traumatic injuries
<b>Impact of Control Parameters on Shearer-Generated Dust Levels</b> Rider-JP; Colinet-JF; Prokop-AE   Transactions 2002, Vol 312, Soc Min Metal Explor, SME, Inc., 2002 Feb; :28-34	2002	Publication	Respiratory diseases
<b>Impact of Control Parameters on Shearer-Generated Dust Levels</b> Rider-JP; Colinet-JF; Prokop-AE   Society for Mining, Metallurgy, and Exploration, Inc, SME preprint 01-184. Littleton, CO, 2001	2001	Publication	Respiratory diseases
<b>Impact of Unbalanced Intake and Scrubber Flows on Face Methane Concentrations</b> Taylor-CD; Rider-JP; Thimons-ED   In: Ramani RV, ed. Proceedings of the 6th International Mine Ventilation Congress, Chapter 27, Society for Mining, Metallurgy, and Exploration, Inc.: Littleton, CO, 1997; :169-172	1997	Publication	Respiratory diseases
<b>Impact, Thermal, and Shock Sensitivity of Molten TNT and of Asphalt-Contaminated Molten TNT</b> Mainiero-RJ; Miron-Y; Kwak-SSW; Kopera-LH; Wheeler-JQ   Proceedings of the 22nd Annual Conference on Explosives and Blasting Technique, Orlando, FL, Intl Society of Explosives Engineers, 1996; :179-197	1996	Publication	Traumatic injuries
<b>Implementing a New Personal Dust Monitor as an Engineering Tool</b> Volkwein-JC; Thimons-ED; Yanak-C; Dunham-D; Patashnick-H; Rupprecht-E   Coal Age 2004 Dec; 109(12):26-29	2004	Publication	Respiratory diseases
<b>Implications of Recent NIOSH Tracer Gas Studies on Bleeder and Gob Gas Ventilation Design</b> Mucho-TP; Diamond-WP; Garcia-F; Byars-JD; Cario-SL   SME Annual Meeting, 2000 Feb 25 - Mar 1, Salt Lake City, Utah, SME Preprint No. 00-8, Littleton, CO, 2005; :1-17	2000	Publication	Mine disasters
<b>Improved Dust Control for Bag Handlers</b> Cecaia-AB; Zimmer-JA; Smith-B; Viles-S   Rock Products 2000 Apr 103(4); :46-49	2000	Publication	Respiratory diseases

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<b>Improved Seat Reduces Jarring/Jolting for Operators of Low-Coal Shuttle Cars</b> Mayton-AG; Merkel-R; Gallagher-S   Mining Eng 51(12), 1999 Dec; :52-56	1999	Publication	Cumulative injuries; Traumatic injuries
<b>Improved Visibility for Operating Large Haulage Equipment</b> Boldt-CMK   Holmes Safety Association Bulletin May-June, 1996; :4-7	1996	Publication	Traumatic injuries
<b>Improving Silica Dust Control Through Targeted Research</b> Colinet-JF; Thimons-ED   2002 SME Annual Meeting, Feb 25-27, Phoenix, Arizona, preprint 02-189. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2002 Feb; :1-6	2002	Publication	Respiratory diseases
<b>Improving Ventilation in Underground Stone Mines</b> Kissell-KN; Volkwein-JC   AggMan, 2002 Apr 1(1):20-25	2002	Publication	Respiratory diseases
<b>In Focus - Cable Bolts: A 'New Support'</b> Mucho-TP   U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Mar :3	1998	Publication	Ground control
<b>In Mine Evaluation of Discriminating Mine Fire Sensors</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   In: E. DeSouza, ed. Proceedings of the North American/Ninth U.S. Mine Ventilation Symposium (June 8-12, 2002, Kingston, Ontario, Canada). A. A. Balkema Publishers, Lisse, Netherlands; :527-532	2002	Publication	Mine disasters
<b>In Situ Stress Measurements at the Stillwater Mine, Nye, Montana</b> Johnson-J; Brady-T; MacLaughlin-M; Langston-R; Kirsten-H   Soil and Rock America 2003. 12th Panamerican Conf on Soil Mechanics and Geotechnical Engineering and the 39th U.S. Rock Mechanics Symposium, Vol. 1. Cambridge, MA: Massachusetts Institute of Technology, 2003 Jun; 1:337-344	2003	Publication	Ground control
<b>In the Field - Cribbs Versus Cables</b> Mucho-TP   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Mar; :5-6	1998	Publication	Ground control
<b>Inaccuracy of Area Sampling for Measuring the Dust Exposure of Mining Machine Operators in Coal Mines</b> Kissell-FN; Sacks-HK   Mining Engineering, 54(2), 2002 Feb; :33-39	2002	Publication	Respiratory diseases
<b>Independent Contractor Accident Trends in the Coal Mining Industry</b> Rethi-LL; Fotta-B   MSHA Holmes Safety Association Bulletin, 1996 Aug :1-4	1996	Publication	Surveillance and training
<b>Independent Contractor Employment and Accident Trends in Metal/NonMetal Mining</b> Fotta-B; Rethi-LL   Holmes Saf Assn Bull 1996 Jul :1-4	1996	Publication	Surveillance and training
<b>Independent Contractor Fatalities in the Mining Industry: A look at Contributing Factors</b> Barrett-EA; Rethi-LL   SME Trans, Vol. 310, Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2001	2001	Publication	Surveillance and training
<b>Independent Contractor Trends in the United States Mining Industry</b> Barrett-EA; Fotta-B; Rethi-LL   Proceedings of Minesafe International 1996 (Perth, Australia) 1996 :357-362	1996	Publication	Surveillance and training
<b>In-Depth Survey Report: Control Technology for Environmental Enclosures - The Effect of Wind Speed Upon Aerosol Penetration Into an Enclosure at Clean Air Filter, Defiance, IA</b> Heitbrink-WA PhD; Thimons-ED   Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, report No. ECTB 223-15a	1999	Publication	Respiratory diseases
<b>Industrial Noise and Conservation of Hearing</b> Michael-KL; Byrne-DC   In: Harris RL, ed. Patty's Industrial Hygiene, Fifth Edition, Vol. 2. New York, NY: John Wiley and Sons, Inc., 2000; :757-810	2000	Publication	Hearing loss

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<b>Inerting Hydrocarbon Fuels with Halon Alternatives</b> Zlochowier-IA   In: Proceedings of the Halon Options Technical Working Conference. Albuquerque, NM, 1996; :367-375	1996	Publication	Mine disasters
<b>Inflatable Devices for Combating Underground Mine Fires</b> Conti-RS; Weiss-ES   In: Proceedings of Minesafe International 1998. University of Witwatersrand, Republic of South Africa; :388-393	1998	Publication	Mine disasters
<b>Inflatable Devices for Use in Combating Underground Mine Fires</b> Weiss-ES; Conti-RS; Bazala-EM; Pro-RW   Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, Report of Investigations 9614. NTIS stock number: PB96-162367, 1996; :1-18	1996	Publication	Mine disasters
<b>Influence of Coal Properties and Dust Control Parameters on Longwall Respirable Dust Levels</b> Organiscak-JA; Colinet-JF   Mining Eng 51(9), 1999; :41-48	1999	Publication	Respiratory diseases
<b>Influence of Intermediate Principle Stress on Rock Mass Quality</b> Li-G; Vongpaisal-S; Pakalnis-R; Brady-T   CAMI 2005 (Fifth International Conference on Computer Applications In Mineral Industries, November 1-3, 2005, Banff, Alberta, Canada	2005	Publication	Ground control
<b>Influence of Mine Design on Longwall Methane Emissions and Gas Production from Methane-Drainage Boreholes</b> Diamond-WP; Garcia-F; Aul-GN; Ray-RE   In: Proceedings of the International Coalbed Methane Symposium. Tuscaloosa, AL: The University of Alabama, 1997; :541-550	1997	Publication	Mine disasters
<b>Infrared Thermography Identifies Laser Ignition Thresholds</b> Monaghan-WD; Dubaniewicz-TH Jr   Kamloops, British Columbia, Canada: Academy of Infrared Thermography, Infrared News Break Feb(edition 15), 2000 Feb; :1-2	2000	Publication	Mine disasters
<b>Initial Stability Study of Large Openings for the National Underground Science Laboratory at the Homestake Mine, Lead, SD</b> Tesarik-D; Johnson-J; Zipf-K Jr.; Lande-K   In NARMS-TAC 2002: Mining and Tunnelling Innovation and Opportunity, ed. by R. Hammah, W. Bawden, J. Curran, and M. Telesnicki (July 7-10, 2002, Toronto, ON). Univ. of Toronto, Toronto, vol. 1; :157-163	2002	Publication	Ground control
<b>Initiating an Ergonomics Process at a Surface Coal Mine</b> Unger-RL; Turin-FC; Wiehagen-WJ; Steiner-LJ; Cornelius-KM; Torma-Krajewski-J   In: Bockosh GR, Kohler JL, Langton JF, Novak T, McCarter MK, Biviano A, eds. Proceedings of the 33rd Annual Institute on Mining Health, Safety and Research (Aug 27-30, 2002; Roanoke, VA), Blacksburg, VA: Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering, 2002; :39-47	2002	Publication (guidelines)	Cumulative injuries
<b>Injuries, Illnesses, and Hazardous Exposures in the Mining Industry, 1986-1995: A Surveillance Report</b> Landen-DD; Fotta-B; Wang-RC; Makowski-BD; Tuchman-RJ; Layne-LA   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2000-117, 2000 May :1-141	2000	Publication	Surveillance and training
<b>Injury Analysis of Pennsylvania Small Surface Coal Mines</b> Randolph-RF   Proc Third Health and Safety Seminar for Small Mines (Somerset, PA). University Park, PA: The Pennsylvania State University, 1998; :83-92	1998	Publication	Surveillance and training
<b>In-Mine Evaluation of Discriminating Mine Fire Sensors</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   In: De Souza E, ed. Proceedings of the North American/Ninth U.S. Mine Ventilation Symposium (Kingston, Ontario, Canada). Lisse, Netherlands: Balkema, 2002; :527-532	2002	Publication	Mine disasters



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<b>Innovative Alternatives to Traditional Classroom Health and Safety Training</b> Brnich-MJ, Jr; Derick-RL; Mallett-L; Vaught-C   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :19-25	2002	Publication	Surveillance and training
<b>Innovative Secondary Support Systems for Gate Roads</b> Barczak-TM; Zelanko-JC; Molinda-GM   In: Proceedings of Longwall USA. Pittsburgh, PA; :21-43	1996	Publication	Ground control
<b>Innovative Secondary Support Technologies for Western Mines</b> Barczak-TM; Molinda-GM   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996	1996	Publication	Ground control
<b>Innovative Strategies for Mine Fire Preparedness</b> Brnich-MJ Jr; Conti-RS; Mallett-LG; Vaught-C; Wiehagen-WJ; Derick-RL   In: Proceedings of Longwall USA International Exhibition & Conference, 1999; :113-122	1998	Publication	Mine disasters
<b>Insights on Technology Transfer from the Bureau of Mines</b> Kissell-FN   Journal of Technology Transfer, 25(1), 2000 Mar; :5-8	2000	Publication	All
<b>Installation and Safety Practices for Cable Bolts in Underground Mines</b> Martin LA, Girard JM, Goris JM   Spokane, WA: U.S. Department of the Interior, Bureau of Mines, Information Circular 9441. NTIS stock number: PB96-140165, 196	1996	Publication	Ground control
<b>Interaction Between Wall Rock Closure, Cemented Backfill Load, and Reinforcement Bolt Load in an Underhand Stope at the Lucky Friday Mine</b> Williams, T.J., D. Denton, J.B. Seymour, D. Tesarik, C. Peppin, and D. Bayer   In: D Stone, ed., Minefill 2001: Proceedings of the 7th International Symposium on Mining with Backfill, Soc. For Min., Metall, and Explor., Littleton, CO, 2001; :117-125	2001	Publication	Ground control
<b>International Experience with Longwall Mining into Pre-Driven Rooms</b> Oyler-D; Frith-R; Dolinar-D; Mark-C   In: Proc 17th Conference on Ground Control in Mining, S. S. Peng. C. T. Holland, eds., 1998 Aug, Morgantown, WV, West Virginia University, 1998; :44-53	1998	Publication	Ground control
<b>Intrinsically-Safe Roof Hazard Alert Module</b> Mayercheck-W; Brautigam-A   U.S. Patent #6,469,619 (granted Oct. 22, 2002); Australia Patent #747632 (granted Aug. 29, 2002); UK Patent #GB0027883.8 (granted June 3, 2003)	2002	Patent	Ground control
<b>Investigation of a Large-Scale Catastrophic Collapse in a Wyoming Trona Mine</b> Swanson-PL   28th International Conference of Safety in Mines Research Institutes, Proceedings of the Conference, Sinaia, România, June 7-11, 1999. Nat. Institute For Min. Safety and Explosion Proof Protection, PetroŃani, România, vol. 1, sessions A-1. 1999 Jun; :343-358	1999	Publication	Ground control
<b>Investigation of a Rock-Burst Site, Sunshine Mine, Kellogg, Idaho</b> Scott-DF; Williams-TJ; Friedel-MJ   In: Gibowicz SJ, Lasocki S, eds., Proceedings of the 4th International Symposium on Rockbursts and Seismicity in Mines, Balkema, 1997; :311-315	1997	Publication	Ground control
<b>Investigation of a Slip/Fall Accident</b> Rethi-LL; Wiehagen-WJ; Calhoun-RA; Garry-D; Cole-HP; Brnich-MJ   National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-156, 1999 Oct; :1-43	1999	Publication	Surveillance and training; Traumatic injuries
<b>Investigation of Ampacity Derating Factors for Shuttle Cars Using Fiber Optics Technology</b> Kovalchik-PG; Scott-LW; Duda-FT; Dubaniewicz-TH   IEEE Industry Applications Society 32nd Annual Meeting, Lindsay PA, ed., New Orleans, Louisiana, 1997 Oct; :1-4	1997	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Investigation of Bulk Solids Engineering Properties and Application of PFC2D to Ore Pass Flow Problems</b> Iverson-SR   In: H. Konietzky, ed., Numerical Modeling in Micromechanics via Particle Methods. Proceedings of the 1st International PFC Symposium (Gelsenkirchen Germany, Nov. 6-8, 2002), Balkema, Rotterdam, Netherlands, 2002; :252-258	2002	Publication	Traumatic injuries
<b>Investigation of Coal Properties and Airborne Respirable Dust Generation</b> Organiscak-JA; Page-SJ   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 98-160, Report of Investigations 9645, 1998 Oct; :1-16	1998	Publication	Respiratory diseases
<b>Investigation of Electromagnetic Emissions in a Deep Underground Mine</b> Scott-DF; Williams-T; Knoll-S   Proceedings: 23rd International Conference on Ground Control in Mining, Morgantown, West Virginia, August 3-5, 2004, S.S. Peng, C. Mark, G. Finfinger, S. Tadolini, A.W. Khair, and K. Heasley, eds., Morgantown, WV: West Virginia University, 2004 Aug; :125-132	2004	Publication	Ground control
<b>Investigation of Electromagnetic Emissions in a Deep Underground Mine</b> Scott-DF; Williams-TJ; Knoll-SJ   In: Potvin Y, Hudyma M, eds. Controlling Seismic Risk: Sixth International Symposium on Rockburst and Seismicity in Mines, Proceedings (Perth Australia, March 9-11, 2005). Australian Centre for Geomechanics, W. Australia, Australia, 2005; :593-599	2005	Publication	Ground control
<b>Investigation of Fully Grouted Roof Bolts Installed Under In Situ Conditions</b> Compton-C; Oyler-D   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 24th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :302-312	2005	Publication	Ground control
<b>Investigation of Intermittency in the Noise Exposure Pattern of Longwall Coal Miners</b> Burks-JA; Bartholomae-RC   In: Proceedings of the 16th International Congress on Acoustics and 135th Meeting of the Acoustical Society of America, 1998; :1523-1524	1999	Publication	Hearing loss
<b>Investigation of Longwall Face Ventilation Air-Splitting Methods for Improved Dust Control</b> Organiscak-JA   Society for Mining, Metallurgy, and Exploration Annual Meeting, SME preprint 99B5. Littleton, CO, 1999 :1-14	1999	Publication	Respiratory diseases
<b>Investigation of Pillar-Roof Contact Failure in Northern Appalachian Stone Mine Workings</b> Esterhuizen-GS; Iannacchione-AT   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2004 Aug; :320-326	2004	Publication	Ground control
<b>Investigation of the Jacking Force Capability of Tunnel Liners</b> Barczak-TM; Smith-R   2002 SME Annual Meeting, Feb 25-27, Phoenix, Arizona, preprint 02-186. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2002 Feb; :1-13	2002	Publication	Ground control
<b>Isometric, Isoinertial, and Psychophysical Strength Testing: Devices and Protocols</b> Gallagher-S; Moore-JS; Stobbe-TJ   In: Kumar S, ed. Muscle strength, Boca Raton, FL: CRC Press, 2004; :129-156	2004	Publication	Cumulative injuries
<b>Issues for Training an Evolving Emergency Management Workforce: A View from the U.S. Mining Community</b> Kowalski-K; Vaught-C; Mallett-L; Brnich-MJ   Int Emerg Mgmt Soc 9th Ann Conf Proc, May 14-17, 2002, R. T. Newkirk, ed., University of Waterloo, Canada, 2002 May; :430-438	2002	Publication	Surveillance and training
<b>Issues Regarding the Safety and Health of Emergency Workers</b> Kowalski-KM; Vaught-C   In: Proceedings of the Sixth Annual Conference of The International Emergency Management Society (TIEMS), Beroggi GEG, ed., Delft, Netherlands: Delft University of Technology, s1999; :286-292	1999	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Jarring/Jolting Exposure and Musculoskeletal Symptoms among Farm Equipment Operators</b> Mayton-AG; Kittusamy-NK; Ambrose-DH; Legault-M   In: Proceedings of the Summer Conference of the National Institute for Farm Safety, Inc. (Keystone Resort, CO, June 20-24, 2004). Madison, WI: National Institute for Farm Safety, Inc., paper No. 04-19, 2004; :1-15	2004	Publication	Cumulative injuries; Traumatic injuries
<b>Judgment and Decision-Making Under Stress: An Overview for Emergency Managers</b> Kowalski-KM; Vaught-C   In: Proceedings of The International Emergency Management Society (TIEMES) Conference (Oslo, Norway) (CD-ROM), 2001	2001	Publication	Mine disasters
<b>Judgment and Decision-Making Under Stress: An Overview for Emergency Managers</b> Kowalski-Trakofler-KM; Vaught-C; Scharf-T   Int J Emer Management 2003; 1(3):278-289	2003	Publication	Mine disasters
<b>Laboratory Evaluation of a Canopy Air Curtain for Controlling Occupational Exposures of Roof Bolters</b> Goodman-GVR; Organiscak-JA   Proc Seventh International Mine Ventilation Congress, (Krakow, Poland) 2001 Jun; :299-305	2001	Publication	Respiratory diseases
<b>Laboratory Evaluation of Pressure Differential-based Respirable Dust Detector Tube</b> Volkwein-JC; Schoeneman-AL; Page-SJ   Appl Occup Env Hyg, 15(1), 2000 Jan; :158-164	2000	Publication	Respiratory diseases
<b>Laboratory Evaluation of Shield Dust Entrainment in High-Velocity Airstreams</b> Listak JM; Chekan GJ; Colinet JF   SME preprint 01-144, 2001, Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc.; :155-160	2001	Publication	Respiratory diseases
<b>Laboratory Profile: The Spokane Research Center</b> Cullen-E   News Link, The Federal Laboratory Consortium for Technology Transfer, 1997 Aug; :1 pp	1997	Publication	All
<b>Laboratory Pull Tests of Resin-Grouted Cable Bolts</b> Martin-LA; Girard-JM; Curtin-RP   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :455-468	1996	Publication	Ground control
<b>Laboratory Testing To Quantify Dust Entrainment During Shield Advance</b> Chekan-GJ; Listak-JM; Colinet-JF   Proc Seventh International Mine Ventilation Congress, 2001, (Krakow, Poland), S. Wasilewski, ed. :291-298	2001	Publication	Respiratory diseases
<b>Ladder Simulation Exercise for Construction, Mining, and Other Industries</b> Wiehagen-WJ; Calhoun-RA; Flick-J; Kowalsk-KM; Radomsky-M; Ramani-RV; et al   In: Proceedings of the Sixth International Conference of the Scientific Committee on Education and Training in Occupational Health, 2002; :63	2002	Publication	Surveillance and training
<b>Lake Lynn Laboratory</b> Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 99-149	1999	Publication	All
<b>LAMODEL - A Boundary Element Program for Coal Mine Design</b> Heasley-KA; Zacharias-A   In: Proceedings of the Tenth International Conference on Computer Methods and Advances in Geomechanics. Tuscon, AZ; :1679-1682	2001	Publication	Ground control
<b>Laser Ignition of Flammable Gas</b> Dubaniewicz-TH Jr.; Cashdollar-KL; Monaghan-WD   Proc International Laser Safety Conference, 1999, Orlando, Florida: Laser Institute of America, 1999; :309-318	1999	Publication	Traumatic injuries
<b>Laser Safety in Underground Coal Mines</b> Dubaniewicz-TH   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/electrical/lasersafety.htm">http://www.cdc.gov/niosh/mining/topics/electrical/lasersafety.htm</a>	2001	Web document	Traumatic injuries

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<b>Leadership Characteristics in Escape from Three Underground Mine Fires</b> Kowalski-KM; Mallett-LG; Brnich-MJ Jr   In: Wybo JL, Therrien M-C, Guarnieri F, eds. Proceedings of the International Emergency Management and Engineering Conference. Montreal, Quebec, Canada, 1996; :317-326	1996	Publication	Mine disasters
<b>Lighted Line</b> Conti-RS; Chasko-LL   U.S. Patent #6,742,909	2004	Patent	Mine disasters
<b>Lightning Propagation Through the Earth and its Potential for Methane Ignitions in Abandoned Areas of Underground Coal Mines</b> Novak-T; Fisher-TJ   Conference Record of the 2000 IEEE Industry Applications Conference-35th IAS Annual Meeting and World Conference on Industrial Applications of Electrical Energy, Rome, Italy, 2000 Oct; :1-3, Piscataway, New Jersey: IEEE 2002 Oct; :2674-2681	2002	Publication	Mine disasters; Traumatic injuries
<b>Link-n-lock Cribs</b> NIOSH   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Nov; :22	1998	Publication	Ground control
<b>Load and Deflection Response of Ventilation Stoppings to Longwall Abutment Loading: A Case Study</b> Oyler-DC; Hasenfus-G; Molinda-GM   In: Peng SS, Mark C, Khair AW, eds. Proceedings of the 20th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :34-41	2001	Publication	Ground control
<b>Long-Term Evaluation of Diesel Particulate Filter Systems at Inco's Stobie Mine</b> Stachulak-JS; Conard-BR; Bugarski-AD; Schnakenberg-GH   Proceeding of the Eighth International Mine Ventilation Congress, Brisbane, Queensland, Australia, July 6-8, 2005	2005	Publication	Respiratory diseases
<b>Long-Term Evaluation of Diesel Particulate Matter Exposures in US Underground Metal and Non-Metal Mines</b> Stachulak-JS; Conrad-BR; Bugarski-AD; Schnakenberg-GH   In: Gillies ADS, ed. Proceedings of Eighth International Mine Ventilation Congress (Brisbane, Australia), AusIMM, Victoria, Australia, 2005; :255-261	2005	Publication	Respiratory diseases
<b>Long-Term Stability of a Backfilled Room-and-Pillar Mine</b> Tesarik-D, Seymour-B, Yanske-T   Field Measurements in Geomechanics. Proceedings of the 5th International Symposium on Field Measurements in Geomechanics, Singapore, Dec. 1-3, 1999, C. F. Leung, S. A. Tan, and K. K. Phoon eds., Balkema, 1999 Dec; :431-435	1999	Publication	Ground control
<b>Longwall Dust Control Potentially Enhanced by Surface Borehole Water Infusion</b> Campoli-AA; McCall-FE; Finfinger-GL; Zuber-MD   Mining Engineering 48(7), 1996; :56-60	1996	Publication	Respiratory diseases
<b>Longwall Dust Control: Issues and Possible Solutions</b> Rider-JP; Colinet-JF; Chekan-G; Listak-J; Thimons-ED   In: Proceedings of Longwall USA International Exhibition & Conference. Overland Park, KS: Intertec Publishing Corp., 2001; :91-111	2001	Publication	Respiratory diseases
<b>Longwall Dust Control: Review of Developments Effectuated in Mines in the U.S.A. over the Last Ten Years (In Polish)</b> Jankowski-RA; Kissell-FN   Maszyni Gornicze J XIV(5), 1996; :51-56	1996	Publication	Respiratory diseases
<b>Longwall Dust Control: Where We Are and Where We Need to Go in the 21st Century</b> Jankowski-RA; Colinet-JF   In: Proceedings of Longwall USA International Exhibition & Conference, 1998; :123-138	1998	Publication	Respiratory diseases
<b>Longwall Mine Noise and Recommendations to Reduce Worker Noise Exposure</b> Bartholomae-RC; Burks-JA   In: Proceedings of Noise-Con 96. Seattle, WA, 1996; :949-954	1996	Publication	Hearing loss

Title	Year	Output Type	Strategic Goal
<b>Longwall Operational Parameters and Dust Levels Measured in Poland's Coal Mines</b> Organiscak-JA; Colinet-JF; Koziel-A   In: Proceedings of Longwall USA International Exhibition & Conference, 1999; :171-184	1999	Publication	Respiratory diseases
<b>Longwall Tailgate Support: Consideration, Design, and Experience</b> Barczak-TM; Mucho-TP; Dolinar-D; Bower-J; Bryja-J   In: Proceedings of Longwall USA International Exhibition & Conference, 1999; :79-104	1999	Publication	Ground control
<b>Longwall Tailgates: the Technology for Roof Support has Improved, but Optimization is Still Not There</b> Barczak-TM   In: Proceedings of Longwall USA (Pittsburgh, PA, June 3-5, 2003), 2003 Jun; :105-130	2003	Publication	Ground control
<b>Look Up, Look Down, Look Out</b> ESFI, OSHA, and NIOSH   Rosslyn, VA: Electrical Safety Foundation International, Inc.; :2 pp	2004	Publication	Traumatic injuries
<b>Low Temperature Limits for Mixing Recycled Oil, Diesel Fuel, and Ammonium Nitrate to Make ANFO-Type Blasting Agents</b> Ruhe-TC; Bajpayee-TS   In: Proceedings of the 22nd Annual Conference on Explosives and Blasting Technique (Orlando, FL, Feb. 4-8, 1996). Vol. 2. Cleveland, OH: International Society of Explosives Engineers, 1996; :232-243	1996	Publication	Traumatic injuries
<b>Lowering Respirable Dust Exposures at Mineral Processing Facilities</b> Cecala-AB; Timko-RJ; Thimons-ED   In: Proceedings of the Eighth U.S. Mine Ventilation Symposium, Tien JC, ed., Rolla, MO: University of Missouri-Rolla Press, 1999; :221-227	1999	Publication	Respiratory diseases
<b>Lowering Respirable Dust Exposures at Mineral Processing Facilities</b> Cecala-AB; Timko-RJ; Thimons-ED   In: Proceedings of 104th Annual Northwest Mining Association Conference (Spokane, WA, December 1998)	1998	Publication	Respiratory diseases
<b>Machine Injury Prediction by Simulation Using Human Models</b> Ambrose-DH; Bartels-JR; Kwitowski-AJ; Helinski-RF; Gallagher-S   Warrendale, PA: Society of Automotive Engineers, Inc., technical paper 2003-01-2190, 2003; :1-11	2003	Publication	Traumatic injuries
<b>Machine-Mounted Continuous Respirable Dust Monitor</b> NIOSH   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin (reprint of Technology News 463), 1997 Oct:20-21	1997	Publication	Respiratory diseases
<b>Maintainability</b> Unger-RL   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/maintainability/maintainability.htm">http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/maintainability/maintainability.htm</a>	2004	Web document	Cumulative injuries; Traumatic injuries
<b>Maintainability Design Checklist</b> Unger-RL; Conway-EJ   NIOSH 1996; <a href="http://www.cdc.gov/niosh/mining/products/checklists.htm#MDC">http://www.cdc.gov/niosh/mining/products/checklists.htm#MDC</a>	1996	Web document	Traumatic injuries
<b>Make it Safer with Roof Screen - Instructional Materials</b> Robertson-S; Mark-C	2005	Publication	Ground control
<b>Mapping Hazards with Microseismic Technology to Anticipate Roof Falls - A Case Study</b> Iannacchione-AT; Batchler-T; Marshall-TE   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2004 Aug; pp. 327-333	2004	Publication	Ground control
<b>Material Properties Affecting the Stability of a 50-Year-Old Rock Dump in an Active Mine</b> Tesarik-DR; McKibbin-RW   NIOSH Report of Investigations 9651, 1999 Dec; :1-28	1999	Publication	Ground control
<b>Material Properties of Retested Specimens Composed of Tailings, Cement, and Blast-Furnace Slag</b> Tesarik-DR; Seymour-JB; Lane-WL   Spokane, WA: U.S. Department of Energy, Report of Investigations 9636. NTIS stock number: PB97-133276; :16 pp	1996	Publication	Ground control

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<b>Materials-Handling Accident Reduction in Underground Mines</b> Stewart-BM; Clark-CC; Patton-PW   6th International Symposium on Mine Mechanization and Automation (Sept. 25-28, 2001, Johannesburg, S. Africa). S. African Institute of Mining and Metallurgy, Johannesburg, S.Africa. Symposium Series S28, 2001; :159-166	2001	Publication	Traumatic injuries
<b>Mathematics, Statistics, and Probability</b> Zipf-RK Jr   Ch. 5. In: Raymond L. Lowrie, ed. SME Mining Reference Handbook, 2002; :103-126	2002	Publication	Surveillance and training
<b>Measurement of Airflow in a Simulated Underground Mine Environment Using an Ultrasonic Anemometer</b> Taylor-CD; Timko-RJ; Senk-MJ; Lusin-A   Transactions, Society for Mining, Metallurgy, and Exploration, Inc., Vol. 316, 2004, SME paper No. 03-065; :6 pp.	2004	Publication	Mine disasters
<b>Measuring Low-Level Methane Concentrations with an Air Bag Sampling System</b> Rider-JP; Taylor-CD; Thimons-ED   Journal of the Mine Ventilation Society of South Africa 50(2), 1997; :47-56	1997	Publication	Respiratory diseases
<b>Measuring the Gas Content of Coal: A Review</b> Diamond-WP; Schatzel-SJ   Int J Coal Geology 35, 1998; :311-331	1998	Publication	Mine disasters
<b>Mechanics of a Large, Strain-Type Rock Burst and Design for Prevention</b> White-BG; Williams-TJ; Whyatt-JK   In: Hammah R, Bawden W, Curran J, Telesnicki M, eds. NARMS-TAC 2002: Mining and Tunnelling Innovation and Opportunity. Vol 2. Toronto, Ontario, Canada: Univ. of Toronto, Toronto, July 7-10, 2002; :1095-1100	2002	Publication	Ground control
<b>Metal and Nonmetal Diesel Particulate Filter Selection Guide</b> Schnakenberg-GH; Bugarski-AD; Angel-J; Saseen-G   Web document, <a href="http://www.msha.gov/nioshnmfiltersselectionguide/dpmfilterguide.htm">http://www.msha.gov/nioshnmfiltersselectionguide/dpmfilterguide.htm</a>	2005	Web document	Respiratory diseases
<b>Metal Mining Facts - 2001</b> NIOSH   NIOSH Publication No. 2003-131, 2003 Jul; :1-2	2003	Publication	Surveillance and training
<b>Metal Operator Mining Facts - 2002</b> NIOSH   NIOSH Publication No. 2004-124, 2004 Jan; :1	2004	Publication	Surveillance and training
<b>Metal Operator Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-116, 2005 Feb; :1	2005	Publication	Surveillance and training
<b>Method &amp; Apparatus for Monitoring the Thickness of a Coal Rib During Rib Formation</b> Mowrey-G   U.S. Patent #5,500,649 (granted March 19, 1996)	1996	Patent	Ground control
<b>Method and Apparatus for Load Rate Monitoring</b> Howie-WL; Owens-JK   U.S. Patent No. 6,957,166 (granted Oct. 18, 2005)	2005	Patent	Ground control
<b>Method and Apparatus for Safety Testing Optical Systems for Hazardous Locations</b> Dubaniewicz-TH; Green-GM   U.S Patent #6,667,801 (granted December 23, 2003)	2003	Patent	Traumatic injuries
<b>Method for Characterization of Rock Strata in Drilling Operations</b> Utt-W   Patent# 09/613/963	2001	Patent	Ground control
<b>Method to Determine the Effects of Rotary Drilling Parameters and Overburden Rock on Silica Dust Generation</b> Listak-JM   In: Yernberg WR, ed. Transactions of Society for Mining, Metallurgy, and Explorations, Inc. Vol. 314. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2003; :102-106	2003	Publication	Ground control
<b>Methods and Apparatuses for Detecting a Temperature Increase in an Electrical Insulator</b> Hudson-A   U.S. Patent #6,189,479 (granted Feb. 20, 2001)	2001	Patent	Traumatic injuries

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<b>Methods for Dust Removal in Roadway Sections</b> Frydel-W; Steindor-M; Jankowski-RA   In: Proceedings of the Eighth U.S. Mine Ventilation Symposium, Tien JC, ed., Rolla, MO: University of Missouri-Rolla Press, 1999; :237-240	1999	Publication	Respiratory diseases
<b>Methods for Evaluating Explosion Resistant Ventilation Structures</b> Sapko-MJ; Weiss-ES; Harteis-SP   In: Eighth International Mine Ventilation Congress (Brisbane, Australia); :211-219	2005	Publication	Mine disasters
<b>Methods to Lower Dust Exposures at Mineral Processing Operations</b> Cecala-AB; Thimons-ED   In: Proceedings of National Stone Association's 1997 Environmental Safety and Health Forum, 1997; :231-249	1997	Publication (guidelines)	Respiratory diseases
<b>Methods to Lower Dust Exposures at Mineral Processing Operations</b> Cecala-AB; Daniel-JH; Thimons-ED   Appl Occupational and Environmental Hygiene 11(7), 1996; :854-859	1996	Publication (guidelines)	Respiratory diseases
<b>Methods to Lower the Dust Exposure of Bag Machine Operators and Bag Stackers</b> Cecala-AB; Timko-RJ; Thimons-ED   Applied Occupational Environmental Hygiene 2000 Oct; 15(10):751-765	2000	Publication	Respiratory diseases
<b>Methods To Minimize Injuries in Materials-Handling and Processes in Underground Mines</b> Stewart-BM; Patton-PW; Clark-CC   Presentation at 109th annual exhibit and meeting, Society for Mining, Metallurgy, and Exploration, Feb. 25-27, 2002, Phoenix, AZ. Preprint 02-103, 2002 Feb; :8 pp	2002	Publication	Cumulative injuries; Traumatic injuries
<b>Microseismic Activity Associated With a Deep Longwall Coal Mine</b> Heasley-KA; Ellenberger-JL; Jeran-PW   2002 SME Annual Meeting, Feb 25-27, Phoenix, Arizona, preprint 02-175. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2002 Feb; :1-5	2002	Publication	Ground control
<b>Mine Aerosol Measurement</b> Cantrell-BK; Volkwein-JC   In: Baron PA, Klaus W, eds. Aerosol Measurement: Principles, Techniques, and Applications, 2nd Edition, 2001 Sep; :801-820	2001	Publication	Respiratory diseases
<b>Mine Design: Long-Term Effects of High-Extraction Mining</b> Jeran-PW   In: Proceedings of the 13th Annual Meeting of the American Society for Surface Mining and Reclamation. Knoxville, TN, 1996; :217-233	1996	Publication	Ground control
<b>Mine Emergency Response Command Center Training Using Computer Simulation</b> Brnich-MJ Jr; Mallett-LG; Reinke-DC; Vaught-C   In: Bockosh GR, Kohler JL, Langton JF, Novak T, McCarter MK, Vibiano A, eds. Proceedings of the 33rd Annual Institute of Mining Health, Safety and Research. Blacksburg, VA: Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering, 2002; 131-141	2002	Publication	Mine disasters
<b>Mine Emergency Response Interactive Training Simulation</b> Glowacki-AF; Brnich-MJ Jr; Mallett-LG; Unger-RL; Vaught-C   In: Proceedings of Minesim '96, the First International Symposium Via the Internet. University of Idaho, National Technical University of Athens, Greece, 1996	1996	Publication	Mine disasters
<b>Mine Escapeway Multiuser Training with Desktop Virtual Reality</b> Orr-TJ; Girard-JM   In: Bandopadhyay S, ed. Application of Computers and Operations Research in the Mineral Industry: Proceedings of the 30th International Symposium (APCOM 2002) (Phoenix, AZ, Feb. 25-27, 2002). Littleton, CO: Society of Mining, Metallurgy, and Exploration	2002	Publication	Surveillance and training
<b>Mine Eyes: Proximity Alert for Monster Trucks</b> Ruff-TM; Holden-TP   GPS World, 2002 Jul; :16-22	2002	Publication	Traumatic injuries
<b>Mine Fire Detection by Ultrasonic Ranging Systems</b> Friel-GF; Edwards-JC   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9624. NTIS stock number: PB96-188149, 1996	1996	Publication	Mine disasters



Title	Year	Output Type	Strategic Goal
<b>Mine Fire Detection in the Presence of Diesel Emissions</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   Journal of the Mine Ventilation Society of South Africa. 2000 53(2); :66-71	2000	Publication	Mine disasters
<b>Mine Fire Detection in the Presence of Diesel Emissions</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   Chemical and Physical Process of Combusion. The Fall Technical Meeting of the Eastern States Section of the Combustion Institute (Oct 10-13, 1999; Raleigh, NC), North Carolina State University; :89-92	1999	Publication	Mine disasters
<b>Mine Fire Detection in the Presence of Diesel Emissions</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   Proc Eighth U.S. Mine Ventilation Symposium. Rolla, MO: University of Missouri-Rolla, Press, 1999 Jun; :295-301	1999	Publication	Mine disasters
<b>Mine Fire Detection Under Zero Airflow Conditions</b> Edwards-JC; Friel-GF; Franks-RA; Opferman-JJ   Proceedings of the 6th International Mine Ventilation Congress, Chapter 52, Ramani RV, ed., Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1997 Feb; :331-336	1997	Publication	Mine disasters
<b>Mine Fire Source Discrimination Using Fire Sensors and Neural Network Analysis</b> Edwards-JC; Friel-GF; Franks-RA; Lazzara-CP; Opferman-JJ   Combustion Fundamentals and Applications - Proceedings of the 2000 Technical Meeting of the Central States Section of the Combustion Institute (April 17-18, 2000, Indianapolis, IN); :207-211	2000	Publication	Mine disasters
<b>Mine Fire Source Discrimination Using Fire Sensors and Neural Network Analysis</b> Edwards-JC; Friel-GF; Franks-RA; Lazzara-CP; Opferman-JJ   In: Proceedings of the 29th International Conference of Safety in Mines Research Institutes. Vol 2. Katowice, Poland: Central Mining Institute, 2001; :7-15	2001	Publication	Mine disasters
<b>Mine Health and Safety Research at NIOSH</b> Grayson-RL   In: Proceedings of the Mining Health and Safety Conference '98. Toronto, Ontario, Canada: Mines and Aggregates Safety and Health Association, tab 4, 1998	1998	Publication	All
<b>Mine Health and Safety Research in the National Institute for Occupational Safety and Health</b> Grayson-RL   In: Proceedings of the International Committee for Coal Research (ICCR) 1998 Meeting, 1998	1998	Publication	All
<b>Mine Health and Safety: Industry's March Towards Continuous Improvement - The United States Experience</b> Grayson-RL   In: Azcue JM, ed. Environmental impacts of mining activities: emphasis on mitigation and remedial measures, Berlin, Germany: Springer-Verlag,1999; :83-100	1999	Publication	All
<b>Mine Health and Safety: Progress and Prospects for the Future</b> Grayson-RL   Mining Engineer 51(6), 1999; :63-65	1999	Publication	All
<b>Mine Rescue and Response</b> Conti-RS   Proceedings of the 12th International Conference on Coal Research - Coal the Future (Sep 12-15, 2000; Sandton, Republic of South Africa). Symposium Series S26, International Committee for Coal Research, Washington, DC; :127-136	2000	Publication	Mine disasters
<b>Mine Rescue Training Simulations and Technology</b> Conti-RS; Chasko-LL; Stowinsky-LD   Disaster and Emergency Management: International Challenges for the Next Decade, 1998 May; :453-464	1998	Publication	Mine disasters
<b>Mine Safety Training: Past, Present, and Future</b> Cullen-E   Minesafe International 2000 (Perth, Australia, Sept. 3-8, 2000). Chamber of Minerals and Energy of Western Australia, Perth, Australia, 2000 Sep; :151-154	2000	Publication	Surveillance and training
<b>Mine Shaft Conveyance Monitoring</b> Beus MJ; Ruff TM; Iverson S; McCoy W   Min Eng, 2000, 53(10):55-58	2000	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Miner Training Simulator: Users Guide and Scripting Language Documentation</b> Ruff-TM   NIOSH Information Circular 9457, 2001 Jun; :1-21	2001	Publication	Surveillance and training; Traumatic injuries
<b>Mining</b> Kohler-JL   In: Rosenstock L, Cullen MR, Brodtkin CA, Redlich, CA, eds. Textbook of clinical occupational and environmental medicine. 2nd ed. London: Elsevier, 2005; :201-214	2005	Publication	All
<b>Mining Employees</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/employees.htm">http://www.cdc.gov/niosh/mining/statistics/employees.htm</a>	2004	Web document	Surveillance and training
<b>Mining Fact Sheets</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/facts.htm">http://www.cdc.gov/niosh/mining/statistics/facts.htm</a>	2005	Web document	Surveillance and training
<b>Mining Facts - 2001</b> NIOSH   NIOSH Publication No. 2003-105, 2003 Jun; :1 pp	2003	Publication	Surveillance and training
<b>Mining Facts - 2002</b> NIOSH   NIOSH Publication No. 2004-122, 2004 Jan; :1 pp	2004	Publication	Surveillance and training
<b>Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-113, 2005 Feb; :1	2005	Publication	Surveillance and training
<b>Mining Facts for 2000</b> NIOSH   NIOSH Publication No. 2002-145, 2002 May :1 pp	2002	Publication	Surveillance and training
<b>Mining Fatalities</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/fatalities.htm">http://www.cdc.gov/niosh/mining/statistics/fatalities.htm</a>	2004	Web document	Surveillance and training
<b>Mining Health and Safety on the Internet</b> Randolph-RF; Steiner-LJ   In: Thompson SD, Grayson RL, Wang YJ, eds. Proceedings of the Fifth Conference on the Use of Computers in the Coal Industry. Morgantown, WV: West Virginia University, 1996; :178-184	1996	Publication	All
<b>Mining Health and Safety Update: Vol. 1 No. 1</b> USDOE   Pittsburgh, PA: U.S. Department of Energy [1996]. Mining Health and Safety Update, 1995 Mar (this issue's focus is on ground control)	1996	Publication	Ground control
<b>Mining Health and Safety Update: Vol. 2 No. 1</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, (This issue's focus is on human factors, fires and explosions, life support, and equipment safety)	1997	Publication	Cumulative injuries; Mine disasters; Traumatic injuries
<b>Mining Health and Safety Update: Vol. 2 No. 2</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, (This issue's focus is on haulage, disaster prevention, and ground control)	1997	Publication	Ground control; Mine disasters; Traumatic injuries
<b>Mining Health and Safety Update: Vol. 3 No. 1</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, Vol 3, No. 1, (This issue's focus is on training and work design)	1998	Publication	Surveillance and training
<b>Mining Illness and Disease</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/illness.htm">http://www.cdc.gov/niosh/mining/statistics/illness.htm</a>	2004	Web document	Surveillance and training

Title	Year	Output Type	Strategic Goal
<b>Mining Injuries</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/injuries.htm">http://www.cdc.gov/niosh/mining/statistics/injuries.htm</a>	2004	Web document	Surveillance and training
<b>Mining Operations</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/mines.htm">http://www.cdc.gov/niosh/mining/statistics/mines.htm</a>	2004	Web document	Surveillance and training
<b>Mining Publications List: 1995 - 1999</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 2000-107, 1999; :1-37	1999	Publication	All
<b>Mining Publications List: 1995 - 2000</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) 2001 Jan; :1-46	2001	Publication	All
<b>Mining Roof Bolting Machine Safety: A Study of the Drill Boom Vertical Velocity</b> Ambrose-DH; Bartels-JR; Kwitowski-AJ; Helinski-RJ; Gallagher-S; McWilliams-LJ; Battenhouse-TR Jr   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Pub No. 2005-128, Information Circular 9477, 2005	2005	Publication	Traumatic injuries
<b>Mining Safety and Health Focus. Vol. 4, No. 1</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH. (This issue's focus is on hearing loss prevention, dust and diesel exhaust measurement, and chemical hazards), 1999	1999	Publication	Hearing loss; Respiratory diseases; Surveillance and training
<b>Mining Statistics</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/statistics/">http://www.cdc.gov/niosh/mining/statistics/</a>	2004	Web document	Surveillance and training
<b>Mining Surveillance Statistics and Research Support Activity</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 98-130	1998	Publication	Surveillance and training
<b>Mining the Remaining Portion of the Ross Shaft Pillar</b> Brady-TM; Johnson-JC; Laurenti-MA; Pariseau-WG; Stahl-M   In: D. Elsworth, J.P. Tinnucci, and K.A. Heasley, eds. Rock Mechanics in the Public Interest. Proceedings of the 38th U.S. Rock Mechanics Symposium, DC Rocks, vol 1, (Washington, D.C., July 7-10, 2001), Balkema, 2001 Jul; :395-399	2001	Publication	Ground control
<b>Mining-Induced Seismic Events at the Lucky Friday Mine: Large Seismic Events (Magnitude &gt;2.5), 1989-1994</b> Whyatt-JK; Williams-TJ; Blake-W; Sprenke-k; Wideman-C   Report prepared for Lawrence Livermore National Laboratory (Memorandum of Agreement B291533), 1996 Aug; :165 pp	1996	Publication	Ground control
<b>Mist System - Technologically Achievable, Administratively Achievable, and Promising Noise Controls (30 CFR Part 62)</b> NIOSH   Information Bulletin P04-18, 2005 ( <a href="http://www.msha.gov/regs/compliance/PIB/2004/pib04-18.pdf">http://www.msha.gov/regs/compliance/PIB/2004/pib04-18.pdf</a> )	2005	Publication (guidelines)	Hearing loss
<b>Mistakes, Misconceptions, and Key Points Regarding Secondary Roof Support Systems</b> Barczak-TM   In: Peng SS, Mark C, Khair AW, eds. Proceedings of the 20th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :347-356	2001	Publication	Ground control
<b>Mobile Machine Hazardous Working Zone Warning System</b> Schiffbauer-WH; Gano-CW   U.S Patent #5,939,986 (granted Aug 17, 1999)	1999	Patent	Traumatic injuries
<b>Mobile Roof Support Load Rate Monitoring System</b> Howie-WL; Owens-JK   Proceedings of the IEEE Industry Applications Society (Phoenix, AZ, October 3-7, 1999). Vol. 1, :234-239	1999	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Mobile Roof Support Safety Research - An Update</b> Owens-J; Howie-W; Maleki-H   In: Jenkins FM, Langton J, McCarter MK, and Rowe B, eds. Proceedings: Thirtieth Annual Institute on Mining Health, Safety, and Research (Salt Lake City, UT, Aug. 8-11, 1999). Blacksburg, VA: Department of Mining and Minerals Engineering, Virginia Polytechnical Institute, 2001 Aug; :101-113	2001	Publication	Ground control; Traumatic injuries
<b>Model for the Structure of Round-Strand Wire Ropes</b> Wang-RC; Miscoe-AJ; McKewan-WM   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 98-148, Report of Investigations 9644, 1998 Sep; :1-19	1998	Publication	Traumatic injuries
<b>Modern Shield Technology: Better Than Ever, But Still Not Perfect</b> Barczak-TM   In: Peng SS, Mark C, eds. Proceedings of the 18th International Conference on Ground Control in Mining, Morgantown, WV: West Virginia University, 1999; :149-163	1999	Publication	Ground control
<b>Moisture-Corrected Reflectance Rock Dust Meter</b> Lucci-CE   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9630. NTIS stock number: PB96-215017, 1996	1996	Publication	Mine disasters
<b>Monitoring Air Flow through a Machine-Mounted Dust Scrubber</b> Taylor-CD; Kovscek-PD; Thimons-ED   Appl Occupational and Environmental Hyg 11(7), 1996; :813-816	1996	Publication	Respiratory diseases
<b>Monitoring Blind Spots: A Major Concern for Haul Trucks</b> Ruff-TM   Engineering and Mining Journal, 202(12), 2001 Dec; :17-26	2001	Publication	Traumatic injuries
<b>Monitoring Mining-Induced Stress Changes with the Biaxial Stressmeter</b> Seymour-JB; Tesarik-DR; McKibbin-RW; Jones-FM   Paper in Field Measurements in Geomechanics. Proceedings of the 5th International Symposium on Field Measurements in Geomechanics, Singapore, Dec. 1-3, 1999. C. F. Leung, S. A. Tan, and K. K. Phoon eds., Balkema, 1999 Dec; :55-60	1999	Publication	Ground control
<b>Monitoring Mobile Roof Supports</b> Hay-KE; Signer-SP; King-ME; Owens-JK   In: Mark-C PhD, Tuchman-RJ, eds. Proceedings: New Technology for Ground Control in Retreat Mining, US Bureau of Mines, Report of Investigations 9446, 1997; :89-98	1997	Publication	Ground control; Traumatic injuries
<b>Monitoring of Reinforced Cemented Backfill in an Underhand Stope</b> Williams, T., D. Denton, C. Peppin, and D. Bayer   In: J. Girard, M. Leibman, C. Breeds, and T. Doe, eds. Pacific Rocks 2000. Rock Around the Rim: Proceedings of the Fourth North American Rock Mechanics Symposium (NARMS 2000) (July 31-Aug. 3, 2000; Seattle, WA), Balkema, 2000; :387-393	2000	Publication	Ground control
<b>Motion Editing and Reuse Techniques and Their Role in Studying Events Between a Machine and its Operator</b> Volberg-O; Ambrose-DH   In: Proceedings of the 2002 Society of Computer Simulation International, Advance Simulation Technologies Conference, 34(4), San Diego, California 2002 Apr; :181-186	2002	Publication	Cumulative injuries; Traumatic injuries
<b>MSHA Data File Downloads</b> McWilliams-LJ; Podlesny-A   Web document, <a href="http://www.cdc.gov/niosh/mining/data/">http://www.cdc.gov/niosh/mining/data/</a>	2005	Web document	Surveillance and training
<b>MSHA Report, Summary of Explosive Testing Conducted Relative to the Accident at Material Service Quarry, Romeoville, IL</b> Rowland-JH III; Mainiero-RJ	1999	Publication	Traumatic injuries
<b>MSHA Report, Summary of Explosive Testing Conducted Relative to the Accident at Trapper Mining Inc., Craig CO</b> Mainiero-RJ; Mytrysak-CA	1999	Publication	Traumatic injuries
<b>MSHA Report, Summary of Testing Conducted Relative to Miller Quarry Accident</b> Mainiero-RJ	1996	Publication	Traumatic injuries

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<b>Multiple Seam Mining Interactions: Case Histories from the Harris No. 1 Mine</b> Chase-FE; Worley-P; Mark-C   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 24th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :79-86	2005	Publication	Ground control
<b>Multiple Type Discriminating Mine Fire Sensors</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   Trans Soc Min Metal Explor, Transactions, Vol 314, 2003 Dec; :166-171	2003	Publication	Mine disasters
<b>Multiple-seam Mining</b> Chekan-GJ   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Sept :7-8	1998	Publication	Ground control
<b>National Institute for Occupational Safety and Health, Pittsburgh Research Laboratory</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health	1998	Publication	All
<b>Navigation and Control of Continuous Mining Systems</b> NIOSH   NASA Tech Briefs 22(6), 1998; :10b-11b	1998	Publication	Traumatic injuries
<b>Navigation and Control of Continuous Mining Systems for Coal Mining</b> Schiffbauer-WH   In: Proceedings of the 1996 IEEE Industry Applications Society 31st Annual Meeting. Vol. 4. San Diego, CA: 1996; :2473-2479	1996	Publication	Traumatic injuries
<b>Neural Network Application to Mine-Fire Diesel-Exhaust Discrimination</b> Friel-GF; Edwards-JC   In: De Souza E, Ed. Proceedings of the North American/Ninth U.S. Mine Ventilation Symposium (Jun 8-12, 2002; Kingston, Ontario, Canada). A. A. Balkema Publishers, Lisse, Netherlands; :533-538	2002	Publication	Mine disasters
<b>Neural Network Technology for Strata Strength Characterization</b> Utt-W   Proc International Joint Conference on Neural Networks, Mount Royal, New Jersey. Middleton, WI: International Neural Network Society, 1999 Jan; :CD-ROM; 4pp	1999	Publication	Ground control
<b>New Approach Controls Dust at the Collector Dump Point: NIOSH Finds a Simple, Cost-Effective Solution for Reducing Dust for Blasthole Drills</b> Reed-WR; Organiscak-JA; Page-SJ   Coal Age 2004 109(6), 2004 Jun; :20-22	2004	Publication	Respiratory diseases
<b>New Approach Controls Dust at the Collector Dump Point: NIOSH Finds a Simple, Cost-Effective Solution for Reducing Dust for Blasthole Drills</b> Reed-WR; Organiscak-JA; Page-SJ   Eng Min J 204(7), 2004; :29-31	2004	Publication	Respiratory diseases
<b>New Coal Mine Roof Rating (CMRR) Improves Safety in U.S. Underground Mines</b> Molinda-GM; Mark-C   In: Proceedings of the 27th International Conference of Safety in Mines Research Institutes, Dhar BB, Bhowmick BC, eds., Vol. 2. New Delhi, India: Oxford & IBH Publishing Co. Pvt. Ltd., 1997; :1001-1011	1997	Publication	Ground control
<b>New Design Approaches for Mine Ore Passes Based on Reduced Scale Laboratory Testing, Field Experiments, and Computer Modeling</b> Beus-MJ; Iverson-S   In: G. N. Panagiotou and T. N. Michalakopoulos, eds. Mine Planning and Equipment Selection. Proceedings, 9th International Symposium on Mine Planning and Equipment Selection (Nov. 6-9, 2000; Athens, Greece). Balkema, 2000; :15-20	2000	Publication	Ground control; Traumatic injuries
<b>New Developments with the Coal Mine Roof Rating</b> Mark-C; Molinda-GM; Barton-TM   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :294-301	2002	Publication	Ground control
<b>New Drill-monitoring System Evaluates Strata Strength in Real Time</b> Utt-WK; Miller-GG; Howie-WL; Woodward-CC   Transactions of SME 312 2002; :87-92	2002	Publication	Ground control

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<b>New Insight Into the Detection of High-Impedance Arcing Faults on DC Trolley Systems</b> Li-J; Kohler-JL   IEEE Transactions on Industry Applications 35(5), 1999; :1169-1173	1999	Publication	Traumatic injuries
<b>New Laminated Displacement-Discontinuity Program</b> Heasley-KA; Salamon-MDG   In: Aubertin M, Hassani F, Mitri H, eds. Proceedings of the Second North American Rock Mechanics Symposium: NARMS '96. Montreal, Quebec, Canada, 1995; :1879-1886	1996	Publication	Ground control
<b>New Laminated Displacement-Discontinuity Program: Fundamental Behavior</b> Heasley-KA; Salamon-MDG   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :111-125	1996	Publication	Ground control
<b>New Techniques for Mining Thin-Seam Mountaintop Coal Reserves</b> DuCarme-JP; Jaspal-JS; Kwitowski-AJ   Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, Report of Investigations 9595. NTIS stock number: PB96-147863, 1996	1996	Publication	Ground control; Mine disasters; Surveillance and training
<b>New Technology for Hoist Conveyance Monitoring and Analysis</b> Beus-MJ, Ruest-M   CIM Bulletin 95(1065), 2002	2002	Publication	Traumatic injuries
<b>New Technology To Monitor Blind Areas Near Surface Mining Equipment</b> Ruff-T   Crossroads to Innovation, Conference Record of the 2003 Institute of Electrical and Electronics Engineers and 38th Annual Meeting of Industry Applications Society (Oct 12-16, 2003; Salt Lake City, UT), Available from the author and on CD-ROM from IEEE, Piscataway, NJ, 2003 Oct; :7 pp	2003	Publication	Traumatic injuries
<b>New Tools for Roof Support Evaluation and Design</b> Signer-S; Sunderman-C   In: S. S. Peng, C. Mark, A. Wahab Khair, and K. Heasley, eds., Proceedings: 22nd International Conference on Ground Control in Mining (Aug. 5-7, 2003; Morgantown WV), Dept. of Mining Engineering, West Virginia University, 2003 Aug; :114-118	2003	Publication	Ground control
<b>New Tools To Monitor Personal Exposure To Respirable Coal Mine Dust</b> Volkwein-JC; Thimons-ED   In: Proceedings of the Seventh International Mine Ventilation Congress, 2001, Krakow, Poland, 2001 Jan; :143-150	2001	Publication	Respiratory diseases
<b>New Tricks for an Old Elephant: Revising Concepts of Coeur d'Alene Geology</b> White-BG   Min Eng 1998 Jan; :50(8)27-35	1998	Publication	Ground control
<b>New Tricks for an Old Elephant: Revising Concepts of Coeur d'Alene Geology</b> White-BG   SME preprint 98-87. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., pp. 1-11	1998	Publication	Ground control
<b>NIOSH Computer Programs for Bench Crest Failure Analysis in Fractured Rock</b> Whyatt-J; Miller-S; Dwyer-J   In: Dessureault SD, Ganguli R, Kecojovic V, Dwyer JG, eds. Application of Computers and Operations Research in the Mineral Industry. Proceedings of the 32nd International Conference (APCOM) (Tucson, AZ, March 30-April 1, 2005). Balkema, 2005; :439-446	2005	Publication	Ground control
<b>NIOSH Hazard Controls 27 - New Shroud Design Controls Silica Dust from Surface Mine and Construction Blast Hole Drills</b> Page-SJ; Organiscak-JA; Flesch-JP; Hagedorn-RT   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 98-150, 1998 Nov; : 1-4	1998	Publication	Respiratory diseases

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<b>NIOSH Hazard Controls 31: Dust Protection for Bag Stackers</b> NIOSH   Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, HC 31, DHHS (NIOSH) Publication No. 2001-142, 2001 Jul :1-4	2001	Publication	Respiratory diseases
<b>NIOSH Hazard ID - Carbon Monoxide Poisoning and Death After the Use of Explosives in a Sewer Construction Project</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication 98-122, 1998 Mar	1998	Publication	Traumatic injuries
<b>NIOSH Hazard ID - Exposure to Silica Dust on Continuous Mining Operations Using Flooded-Bed Scrubbers</b> Colinet-JF; Flesch-JP   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 97-147, 1997 Aug :1-2	1997	Publication	Respiratory diseases
<b>NIOSH Hazard ID - Ignition Hazard from Drilling into Sealed Frames of Agricultural Equipment</b> NIOSH   Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, HID 4, DHHS (NIOSH) Publication No. 98-146	1998	Publication	Traumatic injuries
<b>NIOSH Hazard ID - Workers Exposed to Class B Biosolids During and After Field Application</b> Hintz-P   NIOSH Hazard Identification 10. Dept. of Health and Human Services, Centers for Disease Control, NIOSH Pub. 2000-158, Aug. 2000	2000	Publication	Surveillance and training
<b>NIOSH Health Hazard Evaluation Report: HETA #99-0283-2855: Yellowstone National Park, Yellowstone National Park, Wyoming</b> Habes-DJ; Dick-RB; Tubbs-RL; Biggs-FR; Burt-SE   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, 2001 Aug; :23 pp	2001	Publication	Traumatic injuries
<b>NIOSH Longwall Gob Gas Flow Characterization Studies: Pittsburgh Coalbed, PA</b> Diamond-WP; Mucho-TP; Garcia-F; Jeran-PW; LaScola-JC; McCall-FE; Ulery-JP; Schatzel-SJ   In: Proceedings of Longwall USA International Exhibition & Conference, 1999; :105-118	1999	Publication	Mine disasters
<b>NIOSH Mining Update - New Publications 1995-96</b> NIOSH	1997	Web document	All
<b>NIOSH Pittsburgh Research Laboratory Visitor Information</b> NIOSH   Caruso-DL, Brnich MJ, eds. Unpublished.	2005	Publication	Surveillance and training
<b>NIOSH Program of Mining Research: 1998-1999</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-103	1998	Publication	All
<b>NIOSH Program of Mining Research: A Summary of Mining Research in Progress, 1998</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 98-114	1998	Publication	All
<b>NIOSH Research for Controlling Respirable Dust and Methane Gas on Continuous Miner Faces</b> Goodman-GVR; Taylor-CD; Coliner-JF; Thimons-ED   Proc 12th International Conference on Coal Research, Sandton, Republic of South Africa. Johannesburg, South Africa: South Africa Institute of Mining and Metallurgy 2000 Sep; :151-154	2000	Publication	Respiratory diseases



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<b>NIOSH Research in Coal Dust and Explosions</b> Gurtunca-RG; Cashdollar-KL; Volkwein-JC; Rupprecht-E   In: Weitang F, ed. Proceedings of the 13th International Conference on Coal Research (Shanghai, China, October 26-29, 2004). Beijing, China: China National Coal Association, Department of International Cooperation,2004; :179-186	2004	Publication	Mine disasters
<b>NIOSH Shield Hydraulics Inspection and Evaluation of Leg Data (Shield) Computer Program</b> Barczak-TM; Conover-DP   21st Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :27-38	2002	Publication	Ground control
<b>NIOSH Study Documents a Decade of Equipment Fires</b> De Rosa-MI   Engineering and Mining Journal 206(3), 2005; :40-44	2005	Publication	Mine disasters
<b>NIOSH Ventilation Research Addressing Diesel Emissions and Other Air Quality Issues in Nonmetal Mines</b> Grau-RH; Robertson-SB; Mucho-TP; Garcia-F; Smith-AC   2002 SME Annual Meeting (Phoenix, Arizona; Feb 25-27, 2002). SME preprint 02-187. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc; :1-7	2002	Publication	Mine disasters; Respiratory diseases
<b>NIOSH Ventilation Research Addressing Diesel Emissions and Other Air Quality Issues in Nonmetal Mines</b> Grau-RH III; Robertson-SB; Mucho-T; Garcia-F, Smith-AC   Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., Transactions 2004, Vol. 316; :149-158	2004	Publication	Mine disasters
<b>NIOSH/Industry Collaborative Efforts Show Improved Mining Equipment Cab Dust Protection</b> Organiscak-JA; Cecala-AB; Thimons-ED; Heitbrink-WA; Schmitz-M; Ahrenholtz-E   SME preprint 03-009. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2003; :1-8	2003	Publication	Respiratory diseases
<b>NIOSH/Industry Collaborative Efforts Show Improved Mining Equipment Cab Dust Protection</b> Organiscak-JA; Cecala-AB; Thimons-ED; Heitbrink-WA; Schmitz-M; Ahrenholtz-E   In: Yernberg WR, ed. Transactions of Society for Mining, Metallurgy, and Explorations, Inc., Vol. 314. Littleton, CO: Society for Mining, Metallurgy, and Explorations, Inc., 2003; :145-152	2003	Publication	Respiratory diseases
<b>NIOSH/NHCA Best Practices Workshop on Impulsive Noise</b> Kardous-CA; Franks-JR; David-RR   Noise Control Engineering Journal, 53(2):53-60	2005	Publication	Hearing loss
<b>Noise and Vibration Reduction of a Vibrating Screen</b> Yantek-DS; Jurovcik-P; Bauer-ER   SME Preprint No. 05-71, 2005 SME Conference, Salt Lake City, Utah, 2005; :1-13	2005	Publication	Hearing loss
<b>Noise Controls for Continuous Miners</b> Kovalchik-PG; Duda-FT; Durr-TM   Proceedings of 10th International Meeting on Low Frequency Noise and Vibration and its Control. York, England, September 200; :299-306	2002	Publication	Hearing loss
<b>Noise Exposure and Hearing Loss Among Sand and Gravel Miners</b> Landen-DD; Wilkins-SW; Stephenson-MR; McWilliams-LJ   J Occup Environ Hyg 1(8), 2004; :532-541	2004	Publication	Hearing loss
<b>Noise Exposure and Overhead Power Line (OPL) Safety Hazards at Surface Drilling Sites</b> Reinke-DC; Homce-GT; Cawley-JC; Barrett-EA   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, December, 2005	2005	Publication	Hearing loss
<b>Noise Exposure Assessment and Abatement Strategies at an Indoor Firing Range</b> Kardous-CA; Willson-RD; Hayden-CS; Murphy-SP; Reeves-ER   Applied Occupational and Environmental Hygiene. Vol 18, 2003 Aug; :629-636	2003	Publication	Hearing loss
<b>Noise Exposure in Longwall Mining and Engineering Controls Research</b> Bauer-ER; Podobinsk-DJ; Reeve- ER   In: Proceedings of Longwall USA International Exhibition and Conference, June 13-15, Pittsburgh, PA, Intertec Publishing Corp.; :51-69	2001	Publication	Hearing loss

Title	Year	Output Type	Strategic Goal
<b>Noncoal Contractor Mining Facts - 2001</b> NIOSH   NIOSH Publication No. 2003-135, 2003 Jul; :1-2	2003	Publication	Surveillance and training
<b>Noncoal Contractor Mining Facts - 2002</b> NIOSH   NIOSH Publication No. 2004-129, 2004 Jan; :1 pp	2004	Publication	Surveillance and training
<b>Noncoal Contractor Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-122, 2005 Feb; :1 pp	2005	Publication	Surveillance and training
<b>Non-directional Magnet Field-Based Proximity receiver with Multiple Warning and Machine Shutdown Capability</b> Schiffbauer-WH   U.S. Patent #6,810,353 B2 (granted Oct 26, 2004)	2004	Patent	Traumatic injuries
<b>Nonmetal Mining Facts - 2001</b> NIOSH   NIOSH Publication No. 2003-132, 2003 Jul; :1-2	2003	Publication	Surveillance and training
<b>Nonmetal Operator Mining Facts - 2002</b> NIOSH   NIOSH Publication No. 2004-125, 2004 Jan; :1	2004	Publication	Surveillance and training
<b>Nonmetal Operator Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-121, 2005 Feb; :1 pp	2005	Publication	Surveillance and training
<b>Noranda Inc. - Brunswick Mine Diesel Particulate Filter (DPF) Field Study</b> McGinn-S; Grenier-M; Gangal-M; Rubeli-B; Bugarski-A; Schnakenberg-G; Johnson-R; Petrie-D; Crowther-G; Penney-J   Final Report of Investigation to the Diesel Emissions Evaluation Program (DEEP), 2004 Oct :8-88	2004	Publication	Respiratory diseases
<b>Novel Technique Can Reduce Occupational Hearing Loss</b> NIOSH   Web document, <a href="http://www.cdc.gov/niosh/enews/enewsV2N1.html#from">http://www.cdc.gov/niosh/enews/enewsV2N1.html#from</a>	2004	Web document	Hearing loss
<b>Numerical Analysis of the Impact of Longwall Panel Width on Methane Emissions and Performance af Gob Gas Ventholes</b> Karacan-CO; Diamond-WP; Esterhuizen-GS; Schatzel-SJ   In: Proceedings of the International Coalbed Methane Symposium (Tuscaloosa, AL; May 18-19, 2005). University of Alabama, 2005; :28 pp	2005	Publication	Mine disasters
<b>Numerical Geomechanical Modeling for the Stillwater Mine, Nye, Montana</b> MacLaughlin, M.M., R.B. Langston, and T.M. Brady   In: D. Elsworth, J.P. Tinucci, and K.A. Heasley, eds. Rock Mechanics in the Public Interest. Proceedings of the 38th U.S. Rock Mechanics Symposium, DC Rocks, vol 1, (July 7-10, 2001; Washington, DC), Balkema, 2001 Jul; :423-432	2001	Publication	Ground control
<b>Numerical Modeling for Increased Understanding of the Behavior and Performance of Coal Mine Stoppings</b> Burke-LM; Iannacchione-AT; Barczak-TM; Westman-EC   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining (August 3-5, 2004). Morgantown, WV: West Virginia University, 2004; :112-118	2004	Publication	Ground control
<b>Numerical Modeling of Coal Mines with a Laminated Displacement-Discontinuity Code [Dissertation]</b> Heasley-KA   Golden, CO: Colorado School of Mines, Department of Mining and Earth Systems Engineering	1998	Publication	Ground control
<b>Numerical Modeling of the U1A Complex at the Nevada Test Site: Model Development and Comparison of Different Drift Mining Options</b> Zipf-RK; Heuze-FE   22nd Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003 Aug; :308-317	2003	Publication	Ground control

Title	Year	Output Type	Strategic Goal
Occupational Electrical Injuries in the United States, 1992-1998, and Recommendations for Safety Research Cawley-JC; Homce-GT   J Safety Research 2003 Aug; 34(3):241-248	2003	Publication	Traumatic injuries
Occupational Exposure to Airborne Mercury During Gold Mining Operations Near El Callao, Venezuela Drake-P; Rojas-M; Reh-C; Mueller-C; Jenkins-M   International Archives of Occupational and Environmental Health, vol. 74, 2001 Mar; :206-212	2001	Publication	Surveillance and training
Occupational Noise in Coal Mining - A Continuing Problem Bartholomae-RC   In: Proceedings of the 13th Annual International Pittsburgh Coal Conference. Pittsburgh, PA, 1996; :959-964	1996	Publication	Hearing loss
On-Line Condition Monitoring of Induction Motors Trutt-FC; Sottile-F; Kohler-JL   In: Conference Record of the 2001 IEEE Industry Applications Conference, 36th IAS Annual Meeting (Chicago, IL), 2001; :1369-1375	2001	Publication	Traumatic injuries
Optimal Spray System Designs For Continuous Miner Dust Control Goodman-GVR; Jankowski-RA   In: Chiyotani K, Hosoda Y, Aizawa Y, eds. Advances in the Prevention of Occupational Respiratory Diseases - Proceedings of the Ninth International Conference (Tokyo, Japan - October 13-16, 1997), 1998	1998	Publication	Respiratory diseases
Optimizing Air Curtains for Dust Control on Continuous Miner Faces: A Full-Scale Model Study Jayaraman-NI; Erhard-L; Goodman-GVR   Appl Occupational and Environmental Hyg 11(7), 1996; :838-844	1996	Publication	Respiratory diseases
Optimizing Secondary Roof Support with the NIOSH Support Technology Optimization Program (STOP) Barczak-TM   In: Proceedings of the 19th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, August 8-10, 2000 Aug; :74-83	2000	Publication	Ground control
Ore Pass Inspection System Miller-A; Maricich-P; Dorrington-C; Schmitz-P; Garvey-T   CDC No. I-023-98/0 (United Kingdom - granted Oct. 2003)	2003	Patent	Traumatic injuries
Organization Profile: TIEMS Kowalski-KM   Psych Intl 2000 Apr; 11(2), 2004 Apr; :4	2000	Publication	Mine disasters
Origin of Mining-Induced Fractures Through Macroscale Distortion White-BG; Larson-M; Iverson-SR   Gulf Rocks 2004: Proceedings, Rock Mechanics Across Borders & Disciplines, s6th North American Rock Mechanics Conference, June 5-10, 2004, Houston, Texas. Report No. ARMA/NARMS 04-569. Alexandria, VA: American Rock Mechanics Association, 2004 Jun; :1-8	2004	Publication	Ground control
Out-of-the-Box Approach to Mine Safety: Focus on Construction, Maintenance, and Repair Activities Kowalski-Trakoffler-KM; Rethi-LL   Professional Safety 48(1), 2003; :21-27	2003	Publication	Surveillance and training
Overtime and Extended Work Shifts: Recent Findings on Illnesses, Injuries and Health Behaviors Caruso-CC; Hitchcock-EM; Dick-RB; Russo-JM; Schmidt-JM   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-143, 2004 Apr:1-38	2004	Publication	Cumulative injuries
Overview of Dust Explosibility Characteristics Cashdollar-KL   J Loss Prevention in the Process Industries, 2000 May; 13(3-5); :183-199	2000	Publication	Mine disasters
Overview of Fire Detection Technology for Underground Mines Litton-CD   In: Proceedings of the 28th International Conference of Safety in Mines Research Institutes (Sinaia, Romania). Vol. I, 1999; :299-316	1999	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Overview of Ground Control Research for Underground Coal Mines in the United States</b> Mark-C   In: Proceedings of the 29th International Conference of Safety in Mines Research Institutes. Vol. 2. Katowice, Poland: Central Mining Institute, 2001; :251-261	2001	Publication	Ground control
<b>Overview of Ground Control Research for Underground Coal Mines in the United States</b> Mark-C   Proc 17th Intl Mining Congress and Exhibition of Turkey (IMCET 2001) (Ankara, Turkey), 2001; :3-10	2001	Publication	Ground control
<b>Overview of Hazards and Controls Associated With Common Chemicals Found in Mining</b> Scott-DF; Drake-PL   In Proceedings of the Seventh Mine Health and Safety Seminar (Allentown, PA, Jan. 15-16, 2003). 2003; :87-106	2003	Publication	Surveillance and training
<b>Overview of Mine Fire Detection</b> Edwards-JC   Proc Second International Conference on Fire Research and Engineering (August 3-8, 1997; Bethesda, MD), 1998 Aug :489-499	1998	Publication	Mine disasters
<b>Overview of NIOSH's Mine Seal Research</b> Sapko-MJ; Weiss-ES; Cashdollar-KL; Greninger-NB   In: Proceedings of the 28th International Conference of Safety in Mines Research Institutes (Sinaia, Romania). Vol. I, 1999; :71-85	1999	Publication	Mine disasters
<b>Overview of Proven Low Cost and High Efficiency Dust Control Strategies for Mining Operations</b> Mohamed-MAK; Mutmanský-JM; Jankowski-RA   Mining Technology 78(897), 1996; :141-148	1996	Publication	Respiratory diseases
<b>Overview of U.S. Research on Three Approaches to Ensuring That Coal Miners Work Safely: Management, Workplace Design and Training</b> Peters-RH; Bockosh-GR; Fotta-B   Proc Japan Technical Cooperation Center for Coal Resources Development. Tokyo, Japan, 1997; :19 pp	1997	Publication	Surveillance and training
<b>Particulate Penetration of Porous Foam Used as a Low Flow Rate Respirable Dust Size Classifier</b> Page-SJ; Volkwein-JC; Baron-PA; Deye-GJ   Appl Occup Environ Hyg 2000 Jul; 15(7), 2000 Jul; :561-568	2000	Publication	Respiratory diseases
<b>Partnering for Successful Ergonomics: A Study of Musculoskeletal Disorders in Mining</b> Steiner-LJ; James-P; Turin-FC   In: SME Annual Meeting (Feb 24-26, 2003; Cincinnati OH), SME preprint 03-118. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc.; :1-5	2003	Publication	Cumulative injuries
<b>PC-Based Software for Analyzing U.S. Mining Accidents, Injuries, and Illnesses</b> Glowacki-AF   In: Thompson SD, Grayson RL, Wang YJ, eds. Proceedings of the Fifth Conference on the Use of Computers in the Coal Industry. Morgantown, WV: West Virginia University, 1996; :92-99	1996	Publication	Surveillance and training
<b>Pennsylvania Incorporates Innovative Programs into Mine Rescue Training</b> Eppley-D; Reinke-DC   MSHA Holmes Safety Association Bulletin, Feb/March 2002; :15-16	2002	Publication	Mine disasters; Surveillance and training
<b>Performance and Safety Considerations of Hydraulic Support Systems</b> Barczak-TM; Gearhart-DF   In: Proceedings of the 17th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, WV: University of West Virginia, 1998 Aug; :176-186	1998	Publication	Ground control
<b>Performance Comparison of Rescue Breathing Apparatus</b> Kyriazi-N   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Pub No. 99-152, Report of Investigations 9650, 1999 Oct; :1-28	1999	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Performance Comparison of Second-Generation Oxygen Self-Rescuers</b> Kyriazi-N   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9621. NTIS stock number: PB96-188107, 1996	1996	Publication	Mine disasters
<b>Performance Evaluation of Diesel Particulate Filter Technology in the Underground Environment</b> McGinn-S; Grenier-M; Bugarski-A; Schnakenberg-G; Petrie-D   Mine Ventilation. Lisse, Netherlands: A. A. Balkema, 2002 Oct; :433-440	2002	Publication	Respiratory diseases
<b>Performance of a New Personal Respirable Dust Monitor for Mine Use</b> Volkwein-JC; Vinson-RP; McWilliams-LJ; Tuchman-DP; Mischler-SE   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-151, Report of Investigations 9663, 2004 Jun :1-25	2004	Publication	Respiratory diseases
<b>Performance of a Prototype Personal Dust Monitor for Coal Mine Use</b> Volkwein-JC; Tuchman-DP; Vinson-RP   Mine Ventilation. Lisse, Netherlands: A. A. Balkema, 2002 Oct; :633-639	2002	Publication	Respiratory diseases
<b>Performance of Roof Support Under High Stress in a U.S. Coal Mine</b> Oyler-DC; Mark-C; Gale-WJ; Chen-J   2004 SME Annual Meeting, Feb 23-25, Denver, Colorado, preprint 04-135. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004 Feb; :1-9	2004	Publication	Ground control
<b>Performance of Various Standing and Cribless Tailgate Support Configurations in a Large Eastern Coal Mine</b> Molinda-GM; Dolinar-DR; Barczak-TM; Hustus-J   In: Proceedings of the 16th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, WV: West Virginia University, 1997; :9-15	1997	Publication	Ground control
<b>Personal Bolter Screen: Surface Control to Protect Underground Workers in Coal Mines</b> Molinda-G; Robertson-S; Mark-C; Dolinar-D   Web document (Pamphlet); <a href="http://www.cdc.gov/niosh/mining/pubs/pdfs/pbs.pdf">http://www.cdc.gov/niosh/mining/pubs/pdfs/pbs.pdf</a> , 1 pp	2003	Web document	Ground control
<b>Physical Limitations and Musculoskeletal Complaints Associated With Work in Unusual or Restricted Postures: A Literature Review</b> Gallagher-S   J Saf Res 2005 Jan; 36(1):51-61	2005	Publication	Cumulative injuries
<b>Physical Science and Engineering</b> Zipf-RK Jr   Ch. 4 In: Raymond L. Lowrie, ed. SME Mining Reference Handbook, 2002; :69-102	2002	Publication	All
<b>Physical Strength Assessment in Ergonomics</b> Gallagher-S; Moore-JS; Stobbe-TJ; McGlothlin-JD; Bhattacharya-A   In: Shell RL, Hall EL, eds. Handbook of Industrial Automation, New York, NY: Marcel Dekker, Inc., 2000; :797-827	2000	Publication	Cumulative injuries
<b>Physical Strength Assessment in Ergonomics</b> Gallagher-S; Moore-JS; Stobbe-TJ   American Industrial Hygiene Association 1998 :1-61	1998	Publication	Cumulative injuries
<b>Pillar Design Issues for Underground Stone Mines</b> Iannacchione-AT   In: Proceedings of the 18th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, 1999 Jan; :271-281	1999	Publication	Ground control
<b>Pillar Design To Prevent Collapse of Room-and-Pillar Mines</b> Zipf-KJ   Ch. 59 in Underground Mining Methods: Engineering Fundamentals and International Case Studies, William Hustrulid and Richard Bullock, eds. Soc. Of Min., Metall., and Exploration, Littleton, CO, 2001; :493-511	2001	Publication	Ground control
<b>Pittsburgh Wire Rope Research Centre</b> Miscoe-AJ; McKewan-WM   Organisation Internationale pour l'Etude de l'Endurance des Cables (OIPEEC) (International Organization for the Study of the Endurance of Wire Ropes) Bulletin 73, 1997; :37-43	1997	Publication	Traumatic injuries
<b>Portable Tester for Determining Gas Content Within a Core Sample</b> Garcia-F; Schatzel-S   U.S. Patent #5,741,959 (granted April 21, 1998)	1998	Patent	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Post-Failure Behavior of Two Mine Pillars Confined with Backfill</b> Tesarik-DR; Seymour-JB; Yanske-TR   International Journal of Rock Mechanics and Mining Sciences, vol. 40, 2003; :221-232	2003	Publication	Ground control
<b>Practical Aspects of Mobile Roof Support Usage</b> Chase-FE; McComas-A; Mark-C; Barczak-TM; Goble-CD   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1995	1996	Publication	Ground control
<b>Practical Stress Modeling for Mine Planning</b> Heasley-KA; Chekan-GJ   In: Proceedings of the 17th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, WV: West Virginia University, 1998; :129-137	1998	Publication	Ground control
<b>Practical Techniques to Improve the Air Quality in Underground Stone Mines</b> Grau-RH; Mucho-TP; Robertson-SB; Smith-AC; Garcia-SF   In: De Souza E, ed. Mine Ventilation: Proceedings of the North American/Ninth U.S. Mine Ventilation Symposium (Kingston, Ontario, Canada) Lisse, Netherlands: A. A. Balkema, 2002 Oct; :123-129	2002	Publication	Mine disasters; Respiratory diseases
<b>Predicting Flammability of Gas Mixtures Containing Volatile Organic Compounds</b> Liekhus-KJ; Zlochower-IA; Djordjevic-S; Loehr-C   In: Proceedings of the International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions; Colloquium on Gas, Vapor, Hybrid, and Fuel-Air Explosions. Schaumburg, IL: Safety Consulting Engineers, Inc., 1998; :250-266	1998	Publication	Mine disasters
<b>Predicting Flammability of Gas Mixtures Containing Volatile Organic Compounds</b> Liekhus-K; Zlochower-IA; Cashdollar-KL; Djordjevic-S; Loehr-C   J. Loss Prev. Process Industries, v 13; :377-384	2000	Publication	Mine disasters
<b>Predicting System Interactions in the Design Process</b> Steiner-L; Cornelius-K; Turin-F   American Journal of Industrial Medicine, 36(S1), 1999 Sep; :58-60	1999	Publication	Cumulative injuries
<b>Prediction of Longwall Methane Emissions: An Evaluation of the Influence of Mining Practices on Gas Emissions and Methane Control Systems</b> Diamond-WP; Garcia-F   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 99-150, Report of Investigations 9649, 1999	1999	Publication	Traumatic injuries
<b>Preventing Collisions Involving Surface Mining Equipment: A GPS-Based Approach</b> Ruff, Todd M., and Thomas P. Holden   Journal of Safety Research, vol. 34, 2003; :175-181	2003	Publication	Traumatic injuries
<b>Preventing Falls of Ground in Coal Mines With Exceptionally Low-Strength Roof: Two Case Studies</b> Mark-C; Molinda-GM; Burke-LM   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proc 23rd Intl Conf on Ground Control in Mining, Morgantown, West Virginia, August 3-5, 2004. West Virginia University, 2004 Aug; :220-227	2004	Publication	Ground control
<b>Preventing Hearing Loss Among Miners</b> Rider-JP   Holmes Safety Association Bulletin May-June 1999, Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, 1999; :11	1999	Publication	Hearing loss
<b>Preventing High Insurance Premiums and On-the-Job Injuries: What are Poor Health and Safety Habits Costing You?</b> Matetic-RJ; Ingram-DK   Water Well Journal, 2001 Aug; :10-13	2001	Publication	Surveillance and training
<b>Preventing Injuries Caused by Unrecognized Stone Mine Roof Beam Failures With a Pro-Active Roof Control Plan</b> Iannacchione-AT; Prosser-LJ; Grau-R; Oyler-DC; Dolinar-DR; Marshall-TE; Compton-CS   SME Preprint 99-87. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc. 1999 :1-10	1999	Publication	Ground control

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<b>Prevention of Spontaneous Combustion Fires in U.S. Coal Mines</b> Smith-AC; Sapko-MJ   In: Proceedings of the QCO/DME Coal Industry Safety Conference. Yeppoon, Queensland, Australia, 1996; :119-126	1996	Publication	Mine disasters
<b>Principles of Adult Learning: Application for Mine Trainers</b> Kowalski-KM; Vaught-C   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :3-8	2002	Publication	Surveillance and training
<b>Principles of Adult Learning: Tips for Trainers</b> Kowalski-KM PhD; Vaught C PhD   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/training/adultlearningtips.htm">http://www.cdc.gov/niosh/mining/topics/training/adultlearningtips.htm</a>	2003	Web document	Surveillance and training
<b>Proceedings of the Second International Workshop on Coal Pillar Mechanics and Design</b> Mark-C; Heasley-KA; Iannacchione-AT; Tuchman-RJ, eds.   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Pub No. 99-114, Information Circular 9448, 1999	1999	Publication	Ground control
<b>Proceedings: New Technology for Coal Mine Roof Support</b> Mark-C; Dolinar-DR; Tuchman-RJ; Barczak-TM; Signer-SP; Wopat-PF, eds.   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2000-151, IC 9453; :1-280	2000	Publication	Ground control
<b>Proceedings: New Technology for Ground Control in Retreat Mining</b> Mark-C; Tuchman-RJ   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 97-122, IC 9446, 1997 Mar: :1-129	1997	Publication	Ground control
<b>Profile of Groundfall Incidents in Underground Coal Mines</b> Pappas-DM; Mark-C   Min Eng 55(9), 2003; :65-71	2003	Publication	Ground control
<b>Program of Research - A Summary of Research in Progress during Fiscal Years 98</b> Wagner-GR   DHHS (NIOSH) Publication No. 98-114 :1-89	1998	Publication	All
<b>Programmable Electronic and Hard-Wired Emergency Shutdown Systems: A Quantified Safety Analysis</b> Sammarco-JJ   In: Proceedings of the IEEE Industry Applications Society 40th Annual Meeting. Hong Kong. October 2005	2005	Publication	Traumatic injuries
<b>Programmable Electronic Mining Systems: Best Practice Recommendations (In Nine Parts): Part 6: 5.1 System Safety Guidance</b> Sammarco-JJ   NIOSH Publication No. 2005-150, Information Circular 9480, 2005 Aug; :1-87	2005	Publication	Traumatic injuries
<b>Programmable Electronic Mining Systems: Best Practice Recommendations (In Nine Parts): Part 2: 2.1 System Safety</b> Sammarco-JJ; Fisher-TJ   NIOSH Publication No. 2001-137, Information Circular 9458, 2001 Apr; :1-47	2001	Publication (guidelines)	Traumatic injuries
<b>Programmable Electronic Mining Systems: Best Practice Recommendations (In Nine Parts): Part 3: 2.2 Software Safety</b> Fries-EF; Fisher-TJ; Jobes-CC   NIOSH Publication No. 2001-164, Information Circular 9460, 2001 Sep :1-45	2001	Publication (guidelines)	Traumatic injuries
<b>Programmable Electronic Mining Systems: Best Practice Recommendations (In Nine Parts): Part 4: 3.0 Safety File</b> Mowrey-GL; Fisher-TJ; Sammarco-JJ; Fries-EF   NIOSH Publication No. 2002-134, Information Circular 9461, 2002 May :1-57	2002	Publication (guidelines)	Traumatic injuries



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<b>Programmable Electronic Mining Systems: Best Practice Recommendations (In Nine Parts): Part 5: 4.0 Independent Functional Safety Assessment</b> Sammarco-JJ; Fries-EF   NIOSH Publication No. 2003-138, Information Circular 9464, 2003 May; :1-35	2003	Publication (guidelines)	Traumatic injuries
<b>Programmable Electronic Mining Systems: Best Practice Recommendations (In Nine Parts): Part 1: 1.0 Introduction</b> Sammarco-JJ; Fisher-TJ; Welsh-JH; Pazuchanics-MJ   NIOSH Publication No. 2001-132, Information Circular 9456, 2001 Apr; :1-10	2001	Publication (guidelines)	Traumatic injuries
<b>Progress in Developing Software Safety Guidelines for the Mining Industry</b> Sammarco-JJ   In: Gurgenci H, Hood M, eds. Proceedings of the Fourth International Symposium on Mine Mechanisation and Automation. Vol. 2 (Brisbane, Queensland, Australia), 1997; :B9-9 to B9-15	1997	Publication (guidelines)	Traumatic injuries
<b>Progress Toward a Reduced Exposure Mining System</b> Schnakenberg-GH Jr   Soc Min Eng preprint 96-74, 1996	1996	Publication	Respiratory diseases
<b>Progress Toward a Reduced Exposure Mining System</b> Schnakenberg-GH Jr   Min Eng,49(2),1997 Feb; :73-77	1997	Publication	Traumatic injuries
<b>Properties of Combustible Dusts (Safety Characteristics)</b> Hensel-W; Cashdollar-KL   Chapter In: Hattwig M and Steen H, eds. Handbook of Explosion Prevention and Protection (English translation of Handbuch des Explosionsschutzes, originally published in German, April 2000), Wiley-VCH, 2004; :379-417	2004	Publication	Mine disasters
<b>Properties of Flammable Dusts (in German)</b> Hensel-W; Cashdollar-KL   In: Handbuch des Explosionsschutzes, Properties of Flammable Dusts (in German), Weinheim, Germany, Wiley-VCH, 2000; :443-487	2000	Publication	Mine disasters
<b>Proposal for Certification Tests and Standards for Closed-Circuit Breathing Apparatus</b> Kyriazi-N   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Pub No. 99-144, Information Circular 9449, 1999; :1-12	1999	Publication	Mine disasters
<b>Protecting Workers From Toxic Fumes Generated by Explosives</b> Mainiero-RJ   Tunnel Business Magazine, 1999 Dec; :15	1999	Publication	Traumatic injuries
<b>Pumpable Roof Supports: Developing Design Criteria by Measurement of the Ground Reaction Curve</b> Barczak-TM; Chen-J; Bower-J   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003 Aug; :283-294	2003	Publication	Ground control
<b>Pursuit of Accurate Navigation and Control of Continuous Mining Machines for Coal Mining</b> Schiffbauer-WH   In: Gurgenci H, Hood M, eds. Proceedings of the Fourth International Symposium on Mine Mechanisation and Automation. Vol. 2, Brisbane, Queensland, Australia, 1997; :B6-33 to B6 46	1997	Publication	Traumatic injuries
<b>P-Wave Signal IDs Stressed Rock in Deep Mines</b> Williams-TJ; Scott-DF   Sensors, The Journal of Applied Sensor Technology, vol. 15, no. 2, 1998 Feb; :12-13	1998	Publication	Ground control
<b>Raising the Bar of Ventilation for Large-Opening Stone Mines</b> Grau-RH; Robertson-SB; Krog-RB; Chekan-GJ; Mucho-TP   In: Ganguli R, Bandopadhyay S, eds. Mine Ventilation: Proc 10th U.S./North American Mine Ventilation Symposium (Anchorage, Alaska, May 16-19 2004). Leiden, Netherlands: A. A. Balkema, 2004 May; :349-355	2004	Publication	Mine disasters; Respiratory diseases

Title	Year	Output Type	Strategic Goal
<b>Random Motion Capture Model for Studying Events Between a Machine and its Operator</b> Ambrose-DH   Proceedings of the Advanced Simulation Technologies Conference. ASTC 2001, July 15-19, 2001, Orlando, Florida. San Diego, CA: Society for Computer Simulation International 2001 Jan; :127-134	2001	Publication	Traumatic injuries
<b>Rare-Earth Element Sources and Modification in the Lower Kittanning Coalbed: Pennsylvania: Implications for the Origin of Coal Mineral Matter and Rare-Earth Element Exposure in Underground Mines</b> Schatzel-SJ; Stewart-BW   Int J Coal Geol 54, 2003 ; :223-251	2003	Publication	Respiratory diseases
<b>Rating Coal Mine Roof Strength from Exploratory Drill Core</b> Mark-C; Molinda-GM   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1995; :415-428	1996	Publication	Ground control
<b>Rating the Strength of Coal Mine Roof Rocks</b> Molinda-GM; Mark-C   In: Aubertin M, Hassani F, Mitri H, eds. Proceedings of the Second North American Rock Mechanics Symposium: NARMS '96. Montreal, Quebec, Canada, 1996; :413-422	1996	Publication	Ground control
<b>Rating the Strength of Coal Mine Roof Rocks</b> Molinda-GM; Mark-C   Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, Information Circular 9444. NTIS stock number: PB96-155072, 1996	1996	Publication	Ground control
<b>Reach Enhancement Of A Submerged Waterjet Using Air Shrouding</b> Miller A, Daly D, Connors S   In: Hashish M, ed. Proceedings of the 9th American Waterjet Conference, Vol. 1, 1997; :347-363	1997	Publication	Traumatic injuries
<b>Real-Time Monitoring of Field Measurements for Mine Design: Greens Creek Mine, Admiralty Island, Alaska</b> Orr-TJ; Beus-MJ   Spokane, WA: U.S. Department of the Interior, Bureau of Mines, Report of Investigations 9613. NTIS stock number: PB96-144183, 1996	1996	Publication	Ground control
<b>Real-time Neural Network Application to Mine Fire - Nuisance Emissions Discrimination</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   In: Ganguli-R and Bandopadhyay-S, eds. Mine Ventilation: Proc 10th U.S./North American Mine Ventilation Symposium (May 16-19, 2004, Anchorage, AK). A. A. Balkema Publishers, Lisse, Netherlands; :425-431	2004	Publication	Mine disasters
<b>Recent Advances in Proximity Warning Technology for Surface Mining Equipment</b> Ruff-TM; Steele-J   Mining Engineering, 56(12); :68-72	2004	Publication	Traumatic injuries
<b>Recent Advances in Proximity Warning Technology for Surface Mining Equipment</b> Ruff-TM; Steele-J   Annual Meeting of Soc. For Mining, Metallurgy, and Exploration (Feb 23-25, 2004; Denver, CO), Preprint 04-03; :5pp	2004	Publication	Traumatic injuries
<b>Recent Developments in Coal Pillar Design in the United States</b> Mark-C; Su-D; Heasley-KA   In: Aziz NI, Indraratna B, eds. Proceedings of the International Conference on Geomechanics/Ground Control in Mining and Underground Construction, Wollongong, New South Wales, Australia: University of Wollongong, Vol. 2,1998; :309-324	1998	Publication	Ground control
<b>Recent Mine Seal Research Conducted by NIOSH</b> Sapko-MJ; Weiss-ES; Greninger-NB   In: Sealbarr '99 - Proceedings of the Polish-American Seminar on Seals and Barriers as a Means of Protection Against Fires and Explosions in Mines (Katowice, Poland, May 27-28, 1999),1999 May; :39-53	1999	Publication	Mine disasters
<b>Recent National Institute for Occupational Safety and Health Research Using Ground Penetrating Radar for Detection of Mine Voids</b> Monaghan-WD; Trevits-MA; Mucho-TP; Wood-J   In: Proceedings - Geophysical Technologies for Detecting Underground Coal Mine Voids: An Interactive Forum (Lexington, KY, July 29-30, 2003), 2003 Jul	2003	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Recommendations for Reducing Mine Worker Cumulative Trauma Exposure</b> Cornelius-KM; Turin-FC   In: Proceedings of the IIE Annual Research Conference. Norcross, GA: Institute of Industrial Engineers (CD-ROM), 2001	2001	Publication (guidelines)	Cumulative injuries
<b>Recommendations for Testing Radar-Based Collision Warning Systems on Heavy Equipment</b> Ruff-TM   NIOSH Report of Investigations 9657, 2002 May; :1-17	2002	Publication (guidelines)	Traumatic injuries
<b>Reduced Explosive-Mass and Damaged Detonator Performance Tests</b> Wieland-MS   In: Proceedings of the 13th Annual Symposium on Explosives and Blasting Research. International Society of Explosives Engineers, 1997; :211-221	1997	Publication	Traumatic injuries
<b>Reducing Enclosed Cab Drill Operator's Respirable Dust Exposure at a Surface Coal Operation Using a Retrofitted Filtration and Pressurization System</b> Cecala-AB; Organiscak-JA; Heitbrink-WA; Zimmer-JA; Fisher-T; Gresh-RE, et al.   In: Yernberg WR, ed. Transactions of Society for Mining, Metallurgy, and Explorations, Inc. Vol. 314. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc; :31-36	2003	Publication	Respiratory diseases
<b>Reducing Enclosed Cab Drill Operator's Respirable Dust Exposure at Surface Coal Operation With a Retrofitted Filtration and Pressurization System</b> Cecala-AB; Organiscak-JA; Heitbrink-WA; Zimmer-JA; Fisher-T; Gresh-RE; Ashley-JD   2002 SME Annual Meeting, Feb. 25-27, Phoenix, AZ, SME Preprint 02-105 :1-6	2002	Publication	Respiratory diseases
<b>Reducing Enclosed Cab Drill Operator's Respirable Dust Exposure with Effective Filtration and Pressurization Techniques</b> Cecala-AB; Organiscak-JA; Zimmer-JA; Heitbrink-WA; Moyer-ES; Schmitz-M; Ahrenholtz-E; Coppock-CC; Andrews-EH   Journal of Occupational Environmental Hygiene 2(1)2005; :54-63	2005	Publication	Respiratory diseases
<b>Reducing Longwall Noise with Acoustical Material on the Shields - A Preliminary Analysis</b> Rider-JP; Thimons-ED; Prokop-AD   In: Proceedings of Longwall USA. Pittsburgh, PA, 1996; :159-171	1996	Publication	Hearing loss
<b>Reducing Roof Bolter Operator Cumulative Trauma Exposure</b> Cornelius-KM; Turin-FC   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin 1997 Jan; :1-8	1997	Publication	Cumulative injuries
<b>Reducing Silica Exposure in Aggregate Operations</b> Cecala-AB; Organiscak-JA; Page-SJ; Thimons-ED   Aggregates Manger 2005 Jan; :24-28	2002	Publication (guidelines)	Respiratory diseases
<b>Reducing the Risk of Ground Falls During Pillar Recovery</b> Mark-C; Chase-FE; Pappas-DM   In: Yernberg WR, ed. Transactions of Society for Mining, Metallurgy, and Explorations, Inc., Vol. 314. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2003; :153-160	2003	Publication	Ground control
<b>Reducing Unscheduled Plant Maintenance Delays-Field Test of a New Method to Predict Electric Motor Failure</b> Homce-GT; Thalimer-JR   IEEE Transactions on Industry Applications. New York, NY: IEEE, 32(3), 1996; :689-694	1996	Publication	Traumatic injuries
<b>Reducing Worker Exposure To Dust Generated During Longwall Mining</b> Rider-JP; Colinet-JF   Proceedings of the Seventh International Mine Ventilation Congress, 2001, Krakow, Poland, 2001 Jan; :275-282	2001	Publication	Respiratory diseases
<b>Reducing Worker Exposure to Respirable Dust at Longwall Mining Operations</b> Colinet-JF; Listak-JM   In: Proceedings of the International Conference on Control of Dust Hazards in the Mining Industry (Wisla, Poland), chapter XI, 1999	1999	Publication	Respiratory diseases

Title	Year	Output Type	Strategic Goal
<b>Reduction of Noise Emissions from the Vane Axial Fan in a Dust Collector in a Continuous Miner</b> Carter-BA; Burroughs-CB   The Pennsylvania State University Applied Research Laboratory, Final Technical Report 04-01 under Contract No. 200-2001-08005, July 30, 2004	2004	Publication	Hearing loss
<b>Relationship of Roof Movement and Strata-induced Microseismic Emissions to Roof Falls</b> Iannacchione-AT; Coyle-PR; Prosser-LJ Jr; Marshall-TE, Litsenberger-J   Min Eng 56(12):53-60	2004	Publication	Ground control
<b>Relationships Between Electrostatic Charging Characteristics, Moisture Content, and Airborne Dust Generation for Subbituminous and Bituminous Coals</b> Page-SJ   Aerosol Sci Tech 2000 Apr; 32(4):249-267	2000	Publication	Respiratory diseases
<b>Relative Stress Conditions in an Underground Pillar, Homestake Mine, Lead, SD</b> Scott-DF; Williams-TJ; Freidel-MJ; Denton-DK   Proceedings of the 36th U.S. Rock Mechanics Symposium. New York, NY: Columbia University, Paper No. 278, 1997	1997	Publication	Ground control
<b>Releasing the Energy of Workers to Create a Safer Workplace: The Value of Using Mentors to Enhance Safety Training</b> Camm-TW; Cullen-ET;   In: Peters R, ed. Strategies for Improving Miners' Training. Pittsburgh, PA, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Information Circular 9463, 2002 Sep :35-38	2002	Publication	Surveillance and training
<b>Remote Control of an Agricultural Tractor in SAE Field Upset Tests</b> Lutz-TJ; Homce-GT   Int J Vehicle Des 34(3), 2004; :286-296	2004	Publication	Traumatic injuries
<b>Remote Controls on an Agricultural Tractor for Performing ASAE/SAE Field Upset Tests</b> Lutz-TJ; Homce-GT   Proceedings of the 93rd Annual International Meeting of the American Society of Agricultural Engineers, Paper No. 007004, Milwaukee, WI, July 9-12, 2000. St. Joseph, MI: American Society of Agricultural Engineers, 2000 Jul; :1-6	2000	Publication	Traumatic injuries
<b>Remote Gob Gas Venthole Monitoring and Cellular Telephone-Based Real-Time Data Transmission System</b> Garcia-F; Diamond-WP; Marshall-JK   In: De Souza E, ed. Proceedings of the North American/Ninth U.S. Mine Ventilation Symposium (Kingston, Ontario, Canada). Lisse, Netherlands: Balkema, 2002; :324-329	2002	Publication	Mine disasters
<b>Remote Monitoring of Mine Seismicity and Earthquakes Using Radio Telemetry, Computers, and the Internet</b> Denton-D; Stickney-M; Williams-T; Langston-R   In: R.K. Singhal, K. Fytas, and C. Chiwetelu, eds., Computer Applications in the Minerals Industries, Proceedings of the Fourth International Conference on Computer Applications in the Minerals Industries (CAMI 2003) (Sept. 8-10, 2003; Calgary, AB), 2003 Sep	2003	Publication	Ground control
<b>Remote Roof Stability Monitoring for Underground Nonmetal Mines</b> Grau-RH III; Iannacchione-AT; Prosser-LJ Jr   In: Proceedings of the 1999 Structures Congress. Reston, VA: American Society of Civil Engineers, 1999; :727-730	1999	Publication	Ground control
<b>Removing Booster Influences From Toxic Fumes</b> Wieland-MS   Proc Twenty-Fifth Ann Conf Explos Blasting Tech. Cleveland, OH: Intl Society of Explosives Engineers, 1999; :11-28	1999	Publication	Traumatic injuries
<b>Research by NIOSH for Controlling Respirable Dust and Methane Gas on Continuous Miner Faces</b> Goodman-GVR; Taylor-CD; Colinet-JF; Thimons-ED   Proc Seventh International Mine Ventilation Congress, 2001, Krakow, Poland, 2001 Jan; :237-241	2001	Publication	Mine disasters; Respiratory diseases

Title	Year	Output Type	Strategic Goal
<b>Respirable Dust Control Technology Utilised in Underground Coal Mines in the United States</b> Colinet-JF   In: Proceedings of the Second International Underground Coal Conference, Hebblewhite BK, Galvin JM, Broome AJ, eds. , 1999; :171-179	1999	Publication	Respiratory diseases
<b>Respirable Dust Evaluation of Two Portland Cement Operations: Part 1 of 2</b> Cecala-AB; Timko-RJ; Zimmer-JA; Thimons-ED   Cement Americas 2000 Jan/Feb; :20-23	2000	Publication	Respiratory diseases
<b>Respirable Dust Evaluation of Two Portland Cement Operations: Part 2 of 2</b> Cecala-AB; Timko-RJ; Zimmer-JA; Thimons-ED   Cement Americas 2000 Mar/Apr; :28-30	2000	Publication	Respiratory diseases
<b>Responders To Underground Mine Fires</b> Conti-RS   Proceedings of the 32nd Annual Conference of the Institute on Mining Health, Safety and Research (Aug 5-7, 2001; Salt Lake City, UT), University of Utah; :111-121	2001	Publication	Mine disasters
<b>Retreat Mining Pillar Stability</b> Mark-C   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Nov; :15	1998	Publication	Ground control
<b>Retrofit Options for Better Dust Control</b> Chekan-GJ; Colinet-JF   Aggregates Manag 8(9); :9-12	2003	Publication (guidelines)	Respiratory diseases
<b>Review of Applications of the Coal-Mine Roof Rating (CMRR) for Ground-Control Planning and Operations</b> Wuest-WJ; DeMarco-MJ; Mark-C   Mining Engineering 48(7), 1996; :49-55	1996	Publication	Ground control
<b>Review of Technology Available to the Underground Mining Industry for Control of Diesel Emissions</b> Schnakenberg-GH Jr; Bugarski-AD   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-154, Information Circular 9462, 2002 Aug :1-51	2002	Publication	Respiratory diseases
<b>Rock Bursting and Seismicity During Ramp Development, Lucky Friday Mine, Mullan, Idaho</b> Whyatt-JK; White-BG   In: Peng SS, ed. Proceedings of the 17th International Conference on Ground Control in Mining, 1998 Aug :317-325	1998	Publication	Ground control
<b>Rock Damage Characterisation from Microseismic Monitoring</b> Gale-WJ; Heasley-KA; Iannacchione-AT; Swanson-PLS; Hatherly-P; King-A   Rock Mechanics in the National Interest. Vol. II, Lisse, Netherlands: A. A. Balkema, 2001 Jul; 2:1313-1320	2001	Publication	Ground control
<b>Rock Mechanics Study of Lateral Destressing for the Advance-and-Relieve Mining Method</b> Maleki-H; Dolinar-DR; Dubbert-J   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :105-113	2003	Publication	Ground control
<b>Rock Mechanics Study of Shaft Stability and Pillar Mining, Homestake Mine, Lead, SD (In Three Parts): 3. Geomechanical Monitoring and Modeling Using UTAH3</b> Pariseau-WG; Johnson-JC; McDonald-MM; Poad-ME   US Bureau of Mines, Report of Investigations 9618, NTIS number: PB96-144217, 1996; :1-29	1996	Publication	Ground control
<b>Role of Fault Slip on Mechanisms of Rock Burst Damage, Lucky Friday Mine, Idaho, USA</b> White-BG; Whyatt-JK   In: Hogan TO, ed. SARES 99 - Second Southern African Rock Engineering Symposium. Implementing Rock Engineering Knowledge September 13-15, Johannesburg, S. Africa. Lisboa, Portugal: International Society of Rock Mechanics 1999 Jan; :169-178	1999	Publication	Ground control
<b>Roof and Rib Hazard Assessment for Underground Stone Mines</b> Iannacchione-AT; Prosser-LJ Jr.   Mining Eng 50(2), 1998; :76-80	1998	Publication	Ground control

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<b>Roof and Rib Hazard Assessment for Underground Stone Mines</b> Iannacchione-AT; Prosser-LJ Jr   SME preprint 97-113, 1997	1997	Publication	Ground control
<b>Roof Bolt Response to Shear Stress: Laboratory Analysis</b> McHugh-E; Signer-S   Proceedings: 18th International Conference on Ground Control in Mining, Morgantown, WV, USA, Aug 3-5, 1999. S. Peng and C. Mark, eds., WV University, 1999 Aug; :232-238	1999	Publication	Ground control
<b>Roof Hazard Alert Devices</b> Mayercheck-W; Brautigam-AL   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/groundcontrol/roofhazardalert.htm">http://www.cdc.gov/niosh/mining/topics/groundcontrol/roofhazardalert.htm</a>	2001	Web document	Ground control; Traumatic injuries
<b>Roof Monitoring Helps Prevent Injuries in Stone Mines</b> Iannacchione-AT; Prosser-LJ Jr; Grau-RH III; Oyler-DC; Dolinar-DR; Marshall-TE; Compton-C   Min Eng 2000 Nov; 52(11):32-37	2000	Publication	Ground control
<b>Roof Monitoring in Limestone - Experience with the Roof Monitoring Safety System (RMSS)</b> Marshall-TE; Prosser-LJ Jr.; Iannacchione-AT; Dunn-M   In: Proceedings of the 19th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, 2000 Jan; :185-191	2000	Publication	Ground control
<b>Roof Monitoring Safety System for Underground Stone Mines</b> NIOSH   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Nov; :18-19	1998	Publication	Ground control
<b>Roof Screening: Best Practices and Roof Bolting Machines</b> Robertson-SB; Hinshaw-GE   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002; :189-194	2002	Publication	Ground control
<b>Root Causes of Groundfall Related Incidents in U.S. Mining Industry</b> Biswas-K; Zipf-RK Jr   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003 Aug; :335-343	2003	Publication	Ground control
<b>Safer Mine Hoisting With Conveyance Position and Load Monitoring</b> Beus-MJ; Iverson-S   Am J Ind Med, 1999 Sep 36(S1):119-121	1999	Publication	Traumatic injuries
<b>Safer Mine Layouts for Underground Stone Mines Subjected to Excessive Levels of Horizontal Stress</b> Iannacchione-AT; Marshall-TE; Burke-L; Melville-R; Litsenberger-J   Mining Engineering, 55(4), 2003 Apr; :25-31	2003	Publication	Ground control
<b>Safer Mine Layouts for Underground Stone Mines Subjected to Excessive Levels of Horizontal Stress</b> Iannacchione-AT; Marshall-TE; Burke-L; Melville-R; Litsenberger-J   SME Preprint 01-88. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc	2001	Publication	Ground control
<b>Safety Analysis of Surface Haulage Accidents</b> Randolph-RF; Boldt-CMK   Proc 27th Annual Institute on Mining Health, Safety and Research. Blacksburg, VA: Virginia Polytechnic Institute and State University, 1996 Jan; :29-38	1996	Publication	Surveillance and training; Traumatic injuries
<b>Safety Analysis of Surface Haulage Accidents - Part 1</b> Randolph-RF; Boldt-CMK   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin May-June, 1997; :1-7	1997	Publication	Surveillance and training; Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Safety Analysis of Surface Haulage Accidents - Part 2</b> Randolph-RF; Boldt-CMK   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin July, 1997; :6-7	1997	Publication	Surveillance and training; Traumatic injuries
<b>Safety and Health Training for an Evolving Workforce: An Overview From the Mining Industry</b> Kowalski-Trakofler-KM; Vaught-C; Mallett-LG; Brnich-MJ; Reinke-DC; Steiner-LJ; Wiehagen-WJ; Rethi-LL   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-155, Information Circular 9474, 2004 Jul :1-15	2004	Publication	Surveillance and training
<b>Safety Challenges at Thin Seam Mines</b> Fotta-B; Peters-RH; Mallett-LG   Holmes Safety Association Bulletin, 1999 Jul/Aug; :5-11	1999	Publication	Surveillance and training
<b>Safety Concerns Associated With the Use of Electrically Powered Haulage to Remove Workers from Mines During Main Fan Stoppages</b> Taylor-CD; Timko-RJ; Thimons-ED; Zimmer-JA   In: De Souza E, ed. Proc North American/Ninth U.S. Mine Ventilation Symposium (Jun 8-12, 2002; Kingston, Ontario, Canada). Lisse, The Netherlands: A. A. Balkema; 2002 Oct; :649-653	2002	Publication	Mine disasters
<b>Safety Concerns Associated With the Use of Electrically Powered Haulage to Remove Workers from Mines During Main Fan Stoppages</b> Taylor-CD; Timko-RJ; Thimons-ED; Zimmer-JA   J Mine Vent Soc S Afr 56(1), Jan/Mar 2003; :6-10	2003	Publication	Mine disasters
<b>Safety Considerations for Transport of Ore and Waste in Underground Ore Passes</b> Stewart-B; Iverson-S; Beus-M   Min Eng 1999 Mar; 51(3):53-60	1999	Publication	Traumatic injuries
<b>Safety Framework for Programmable Electronics in Mining</b> Sammarco-JJ   Min Eng, 51(12), 1999 Dec; :30-33	1999	Publication (guidelines)	Traumatic injuries
<b>Safety Improvements for Roof Bolter Operators</b> Robertson-SB; Cooper-DP; Wiehagen-WJ   In: Proceedings of the American Society of Safety Engineers Professional Development Conference (Las Vegas, NV, June 7-10, 2004). Des Plaines, IL: American Society of Safety Engineers, 2004 Jun; :1-17	2004	Publication	Ground control
<b>Safety Issues and the Use of Software-Controlled Equipment in the Mining Industry</b> Sammarco-JJ; Kohler-JL; Novak-T; Morley-LA   In Lindsay PA, ed. Proceedings of the 1997 Australian Workshop on Industrial Experience With Safety Critical Systems and Software, Australian Computer Society: 1997; :25-32	1997	Publication	Traumatic injuries
<b>Safety Issues and the Use of Software-Controlled Equipment in the Mining Industry</b> Sammarco-JJ; Kohler-JL; Novak-T; Morley-LA   IEEE Industry Applications Society 32nd Annual Meeting (Oct. 5-9, 1997; New Orleans, LA), 1997 Oct; :1-7	1997	Publication	Traumatic injuries
<b>Safety Solution: Conveyor Spillage Prevention</b> Stewart-W   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/conveyorspillage.htm">http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/conveyorspillage.htm</a>	2004	Web document	Cumulative injuries; Traumatic injuries
<b>Safety Solution: Preventing Slide-Backs On Slope Conveyors</b> Stewart-W   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/slidebacks.htm">http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/slidebacks.htm</a>	2004	Web document	Cumulative injuries; Traumatic injuries
<b>Sampling Results of the Improved SKC® Diesel Particulate Matter Cassette</b> Noll-JD; Timko-RJ; McWilliams-LJ; Hall-P; Haney-R   Journal of Occupational and Environmental Hygiene, 2(1), 2005 Jan; :29-37	2005	Publication	Respiratory diseases



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<b>Sand &amp; Gravel Operator Mining Facts - 2002</b> NIOSH   NIOSH Publication No. 2004-127, 2004 Jan; :1 pp	2004	Publication	Surveillance and training
<b>Sand &amp; Gravel Operator Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-120, 2005 Feb; :1 pp	2005	Publication	Surveillance and training
<b>Sand and Gravel Mining Facts - 2001</b> NIOSH   NIOSH Publication No. 2003-134, 2003 Jul; :1-2	2003	Publication	Surveillance and training
<b>Scaled Cloud Model for Released Toxic Fumes</b> Wieland-MS   Proc 10th Annual High-Tech Blasting Seminar. Allentown, PA: Blasting Analysis International, Inc., 2001 Jan; :P1-P18	2001	Publication	Traumatic injuries
<b>Scaling Accidents in Underground Stone Mines</b> Grau-RH III; Prosser-LJ Jr   Rock Products 100(1), 1997 Jan; 39-41	1997	Publication	Ground control
<b>Securing the Blast Site to Prevent Blasting Related Injuries: Blasting Safety - Revisiting Site Security</b> Bajpayee-TS; Verakis-HC; Lobb-TE   Journal of Explosives Engineering, July/August 2005; :6-14	2005	Publication	Ground control
<b>Seismic Event Data Acquisition and Processing: Distribution and Coordination Across PC-Based Networks</b> Swanson-P; Kenner-B; Krahenbuhl-T   In Application of Computers and Operations Research in the Mineral Industry: Proceedings of the 30th International Symposium (APCOM 2002), ed. By S. Bandopadhyay (Feb. 25-27, 2002, Phoenix, AZ). Soc. Of Min. Metall., and Explor., Littleton, CO, 2002 Feb; :637-647	2002	Publication	Ground control
<b>Seismic Tomography as a Tool for Measuring Stress in Mines</b> Scott-DF; Williams-TJ; Denton-DK; Friedel-MJ   Mining Engineering, 1999 Jan; :77-80	1999	Publication	Ground control
<b>Selected Health Issues in Mining</b> Scott-DF; Grayson RL   Presentation at annual meeting of the Society for Mining, Metallurgical, and Exploration Engineers, Cincinnati, OH, Feb. 26-28, 2003; 16 pp	2003	Publication	Respiratory diseases; Surveillance and training
<b>Selected Mineral Deposits and their Role as Research Locations for Innovative Mining Techniques</b> Grau-RH III; Moebis-NN   Pittsburgh, PA: U.S. Department of the Interior, Bureau of Mines, Information Circular 9445. NTIS stock number PB96-162243, 1996	1996	Publication	All
<b>Self-Contained Self-Rescuer Field Evaluation: Fifth-Phase Results</b> Kyriazi-N; Shubilla-JP   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9635. NTIS stock number: PB97-124937, 1996; :1-22	1996	Publication	Mine disasters
<b>Self-Contained Self-Rescuer Field Evaluation: Seventh-Phase Results</b> Kyriazi-N; Shubilla-JP   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2001-127, Report of Investigations 9656, 2002 Mar :1-13	2002	Publication	Mine disasters
<b>Self-Contained Self-Rescuer Field Evaluation: Sixth-Phase Results</b> Kyriazi-N; Shubilla-JP   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Publication No. 98-1998, Information Circular 9451, 2000 Jul; :1-13	2000	Publication	Mine disasters
<b>Self-Contained Self-Rescuer Field Evaluation: Sixth-Phase Results</b> Kyriazi-N; Shubilla-JP   Journal of the International Society for Respiratory Protection 18(1), 2000; :6-21	2000	Publication	Mine disasters

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<b>Self-Reported Musculoskeletal Symptoms Among Operators of Heavy Construction Equipment</b> Kittusamy-NK   In: Ergonomics in the Digital Age: Proceedings of the XVth Triennial Congress of the International Ergonomics Association and 7th Joint Conference of Ergonomics Society of Korea/Japan Ergonomics Society (Seoul, Korea, Aug. 24-29, 2003). Seoul, Korea: Ergonomics Society of Korea, 2003 Aug	2003	Publication	Cumulative injuries
<b>Semiempirical Model for Predicting Surface Coal Mine Drill Respirable Dust Emissions</b> Page-SJ; Organiscak-JA   Int J Surface Min Reclam Environ 18(1), 2004; :42-59	2004	Publication	Respiratory diseases
<b>Sensor-Enhanced Test Platform Will Refine Safety Measures in Underground Mines</b> Beus-MJ   Sensors, The Journal of Applied Sensor Technology, 14(8), 1997; :14	1997	Publication	Traumatic injuries
<b>Serious Injuries to Dozer Operators: A Discussion of their Characteristics and Ways to Reduce Injury Risk</b> Wiehagen-WJ; Mayton-AG; Friend-TL; Jaspal-JS; Turin-FC   Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., Transactions 2002, Vol. 312, 2002; :57-64	2002	Publication	Traumatic injuries
<b>Setting Priorities for Mine Safety and Health Research</b> Grayson-RL   SME preprint 98-107. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1998	1998	Publication	All
<b>Shear Behavior Of Cable Bolt Supports In Horizontal Bedded Deposits</b> Goris-JM; Martin-LA; Curtin-RP   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :511-521	1996	Publication	Ground control
<b>Shear Mechanism for Mining-Induced Fractures Applied to Rock Mechanics of Coal Mines</b> White-B   In: Peng SS, Mark C, Wahab A, and Heasley KA, eds. Proceedings of the 21st International Conference on Ground Control in Mining (Morgantown, WV, Aug. 6-8, 2002), West Virginia University, Morgantown, WV, 2002 Aug; :328-334	2002	Publication	Ground control
<b>Shear Origin of Tension in Excavation-Induced Fractures</b> White-BG; Iverson-S; Larson-M   In: Culligan PJ, Einstein HH, Whittle AJ, eds. Soil and Rock America 2003. 12th Panamerican Conference on Soil Mechanics and Geotechnical Engineering and the 39th U.S. Rock Mechanics Symposium, Vol. 1. Cambridge, MA: Massachusetts Institute of Technology, 2003 Jun; 1:909-916	2003	Publication	Ground control
<b>Shear Strength Evaluation of Clay-Rock Mixtures</b> Iannacchione-AT; Vallejo-LE   Slope Stability 2000. Geotechnical Special Publication No. 101, Griffiths DV, Fenton GA, Martin TR, eds., Reston, VA: American Society of Civil Engineers, 2000 Jan; :209-223	2000	Publication	Ground control
<b>Shear Strength of Saturated Clays with Floating Rock Particles [Dissertation]</b> Iannacchione-AT   Pittsburgh, PA: University of Pittsburgh, School of Engineering	1997	Publication	Ground control
<b>Sheathed Explosives Charge</b> Mainiero-RJ   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/explosives/sheath.htm">http://www.cdc.gov/niosh/mining/topics/explosives/sheath.htm</a>	1997	Web document	Traumatic injuries
<b>Shield Design, Construction, and Operation</b> Barczak-TM; Chekan-GJ; Babich-DR   In: Proceedings of Longwall USA International Exhibition & Conference, 1998; :5-47	1998	Publication	Ground control
<b>Shield Evaluation and Performance Testing at the USBM's Strategic Structures Testing Laboratory</b> Barczak-TM; Gearhart-DF   In: Proceedings of Longwall USA. Pittsburgh, PA, 1995; :189-205	1996	Publication	Ground control

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<b>Shock Reduction for Low-Coal Shuttle Car Operators Using Viscoelastic Seating Foam</b> Mayton-A; Merkel-R; Gallagher-S   Society for Mining, Metallurgy, and Exploration Annual Meeting, SME preprint 98-44, Littleton, CO, Society for Mining, Metallurgy, and Exploration, Inc., 1998 Mar; :1-4	1998	Publication	Cumulative injuries; Traumatic injuries
<b>Short-Encapsulation Pull Tests for Roof Bolt Evaluation at an Operating Coal Mine</b> Pile-J; Bessinger-S; Mark-C; Tadolini-SC   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003 Aug; :226-232	2003	Publication	Ground control
<b>Significant Dust Dispersion Models for Mining Operations</b> Reed-WR   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-138, Information Circular 9478, 2005 Sep; :1-29	2005	Publication	Respiratory diseases
<b>Silica Collection Concerns when Using Flooded-Bed Scrubbers</b> Colinet -JF; Jankowski-RA   Society for Mining, Metallurgy, and Exploration, Inc., SME preprint 98-131. Littleton, CO, 1998	1998	Publication	Respiratory diseases
<b>Silica Collection Concerns When Using Flooded-Bed Scrubbers</b> Colinet-JF; Jankowski-RA   Mining Engineering 52(4) 2000; :49-54	2000	Publication	Respiratory diseases
<b>Silica Dust Control in Hard Rock Tunnels</b> Kissell-FN; Jurani-R; Dresel-R; Parker-C   In: Proceedings of the 1999 Rapid Excavation and Tunneling Conference, 1999; :241-247	1999	Publication	Respiratory diseases
<b>Silica Dust Sources in Underground Limestone Mines</b> Chekan-GJ; Colinet-JF   In: Bockosh GR, Kohler JL, Langton JF, Novak T, McCarter MK, Biviano A, eds., Proceedings of the 33rd Annual Institute on Mining Health, Safety and Research. Blacksburg, VA: Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering, 2002; :55-70	2002	Publication	Respiratory diseases
<b>Silica Dust Sources in Underground Metal/Nonmetal Mines - Two Case Studies</b> Chekan-GJ; Colinet-JF; Grau-RH, III   2002 SME Annual Meeting, Feb 25-27, Phoenix, Arizona, preprint 02-037. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2002 Feb; :1-8	2002	Publication	Respiratory diseases
<b>Silica...It's Not Just Dust</b> MSHA, OSHA, NIOSH   Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, HC27, DHHS (NIOSH) Publication No. 97-118	1997	Publication	Respiratory diseases
<b>Simplified Hyperspectral Imaging for Improved Geologic Mapping of Mine Slopes</b> McHugh-EL; Girard-JM; Denes-LJ   In: Meech-JA, Veiga-MM, Kawazoe-Y; LeClair-SR, eds. Intelligence in a Materials World	2003	Publication	Ground control
<b>Simplified Hyperspectral Imaging for Improved Geologic Mapping of Mine Slopes</b> McHugh-EL; Girard-JM; and Denes-LJ   In: Meech JA, Veiga SM, Viega MM, LeClair SR, Maguire JF, eds. Proc Third International Conference on Intelligent Processing and Manufacturing of Materials, 2001, (Vancouver, BC, July 29-Aug 2, 2001); CD-ROM (available from author)	2001	Publication	Ground control
<b>Simplified Pre- and Post-Processing Technique for Performing Finite-Element Analyses of Deep Underground Mines</b> Figenzi-MT   Proceedings of the 16th International Conference on Ground Control in Mining, Peng SS, ed., Morgantown, WV: West Virginia University, 1997 Jan; :320-328	1997	Publication	Ground control
<b>Size Distribution and Deposition in Human Respiratory Tract: Particle Mass and Number</b> Bugarski-A; Gautam-M   Proc 4th International ETH-Conference on Nanoparticle Measurement, 2001, Bern, Switzerland, August 7-9, 2000. A. Mayer: Niederrohrdorf, Switzerland, 2001 Jan; :1-12	2001	Publication	Respiratory diseases

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Size Distribution of Diesel Particulate Matter in a Non-Metal Mine Bugarski-AD   In: Proceedings of 5th International ETH Conference. Vol 1, 2002	2002	Publication	Respiratory diseases
Sizing of Final Stumps for Safer Pillar Extraction Mark-C; Zelanko-JC   In: Peng SS, Mark C, Khair AW, eds. Proceedings of the 20th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :59-66	2001	Publication	Ground control
Skin Failure of Roof and Rib in Underground Coal Mines Bauer-ER; Pappas-DM; Dolinar-DR; McCall-FE; Babich-DR   In: Peng SS, Mark C, eds. Proceedings of the 18th International Conference on Ground Control in Mining, Morgantown, WV: West Virginia University, 1999; :108-114	1999	Publication	Ground control
Solid Modeling Simulations Used as an Alternative Method to Study Safety Issues in Mine Elevator/Hoist Systems Ambrose-DH   In: Proceedings of MINESIM '96 - First International Symposium on Mine Simulation. Athens, Greece: CD-ROM, 1996; :13 pp	1996	Publication	Traumatic injuries
Solutions to Prevent Materials-Handling Injuries in Underground Coal Mines Stewart-B; Clark-C; Stapleton-B; Warneke-J   Presentation at annual meeting of SME, Salt Lake City, UT, Feb. 28-Mar. 2, 2005. Preprint 05-63, 2005; :7 pp	2005	Publication	Cumulative injuries; Traumatic injuries
Spatial Trends in Rock Strength - Can They Be Determined From Coreholes? Mark-C; McWilliams-LJ; Pappas-DM; Rusnak-JA   In: Peng SS, Mark C, Finfinger GL, Tadolini SC, Heasley KA, Khair AW, eds. Proceedings of the 23rd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, pp. 177-182	2004	Publication	Ground control
SPONCOM - A Computer Program for the Prediction of the Spontaneous Combustion Potential of an Underground Coal Mine Smith-AC; Rumancik-WP; Lazzara-CPSPONCOM - A Computer Program for the Prediction of the Spontaneous Combustion Potential of an Underground Coal Mine   In: Thompson SD, Grayson RL, Wang YJ, eds, Proc of the Fifth Conf on the Use of Computers in the Coal Industry. Morgantown, WV: West Virginia University 1996 Jan; :134-143	1996	Publication	Mine disasters
Spontaneous Combustion - Coal Characterization and Environmental Factors Smith-AC   In: Proceedings of the 32nd Annual Institute on Mining Health, Safety and Research, ( August 5-7, 2001, Salt Lake City, UT), 2001; :91-94	2001	Publication	Mine disasters
Spray Characterization for Coal Mine Dust Removal Gemci-T; Chigier-N; Organiscak-JA   In: Proceedings of the Ninth International Conference on Liquid Atomization and Spray Systems (Sorrento, Italy, July 13-18, 2003), 2003	2003	Publication	Respiratory diseases
Stability Evaluation of Extended Cut Mining in Underground Coal Mines Bauer-ER; Chekan-GJ; Steiner-LJ   In: Hudson JA, ed. Proceedings of the 36th U.S. Rock Mechanics Symposium. New York, NY: Columbia University, paper No. 302, 1997	1997	Publication	Ground control
Stability of Backfilled Cross-Panel Entries During Longwall Mining Seymour-B; Tesarik-D; Larson-M; Shoemaker-J   Proc 17th International Conference on Ground Control in Mining, 1998 Aug :11-20	1998	Publication	Ground control
Stability of Permafrost Gravels in an Alaskan Underground Placer Mine Seymour-JB; Tesarik-DR; McKibbin-RW   In: Myrvang AM, Vik J, eds. Proceedings of the Fourth International Symposium on Mining in the Arctic. Longyearbyen, Svalbard, Norway: 1996; :147-156	1996	Publication	Ground control
Stability of Underground Openings Adjacent to the Sink Hole at the NIOSH Lake Lynn Research Laboratory Dolinar-DR; Marshall-TE; Barczak-TM; Mucho-TP   2003 SME Annual Meeting, Feb 24-26, Cincinnati, Ohio, preprint 03-154. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2003 Feb; :1-7	2003	Publication	Ground control

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<b>Standardization of Geological and Geomechanical Assessment at Underground Coal Mines in Canada</b> Forgeron-S; Mark-C; Forrester-DJ   CIM Bulletin 2001 Jul; :83-90	2001	Publication	Ground control
<b>Standing Support Alternatives in Western Longwalls</b> Barczak-TM; Tadolini-SC   2005 SME Annual Meeting, February 28 - March 2, Salt Lake City, Utah, preprint 05-78. Littleton, CO, Society for Mining, Metallurgy, and Exploration, Inc., 2005 Feb; :1-10	2005	Publication	Ground control
<b>State of the Art in Monitoring Respirable Mine Aerosols</b> Volkwein-JC; Mischler-SE; Thimons-ED; Timko-RJ; Kissell-FN   Proceedings of the 31st International Conference of Safety in Mines Research Institutes, Oct 2-5, 2005; Brisbane, Australia; :138-139	2005	Publication	Respiratory diseases
<b>State of the Art Room and Pillar Retreat Mining in the Kittanning Coalbed</b> Campoli-AA; Rebuck-D; Mucho-TP; Molinda-GM   Mining Engineering 48(4), 1996; :30-35	1996	Publication	Ground control
<b>State-of-the-Art in Monitoring Respirable Mine Aerosols</b> Volkwein-JC; Thimons-ED; Timko-RJ; Hall-EE; Mischler-SE; Kissell-FN; Vinson-RP   In: Gillies ADS, ed. Proceedings of Eighth International Mine Ventilation Congress (Brisbane, Australia), AusIMM, Victoria, Australia, 2005; :151-156	2005	Publication	Respiratory diseases
<b>Static and Dynamic Loads in a Scaled Ore Pass</b> Scott-VA; Drescher-A; Iverson-S; Beus-M   Pacific Rocks 2000. Rock Around the Rim: Proceedings of the Fourth North American Rock Mechanics Symposium (NARMS 2000), ed. By J. Girard, M. Leibman, C. Breeds, and T. Doe (Seattle WA, July 31-Aug. 3, 2000). Balkema, 2000; :381-386	2000	Publication	Traumatic injuries
<b>Static and Dynamic Loads in Ore and Waste Rock Passes in Underground Mines</b> Beus-M; Iverson-SR; Drescher-A; Scott-V   Rock Mechanics for Industry, Amadei, Kranz, Scott & Smeallie (eds.), 1999 Balkema, Rotterdam, ISBN 90 5809 052 3, :489-495	1999	Publication	Traumatic injuries
<b>Static Pressure Requirements for Ventilated Enclosures</b> Heitbrink-WA; Thimons-ED; Organiscak-JA; Cecala-AR; Schmitz-M; Ahrenholtz-E   In: Progress in Modern Ventilation. Vol 2. Proceedings of the Ventilation 2000 - 6th International Symposium on Ventilation for Contaminant Control [Helsinki, Finland, June 4-7, 2000]. Helsinki, Finland: Finnish Institute of Occupational Health; :97-99	2000	Publication	Respiratory diseases
<b>Status of a Tapered Element, Oscillation Microbalance-Based Continuous Respirable Coal Mine Dust Monitor</b> Cantrell-BK; Stein-SW; Patashnick-H; Hassel-D   Applied Occupational and Environmental Hygiene 1996 Jan; 11(7):624-629	1996	Publication	Respiratory diseases
<b>Status of Dust Control Technology on U.S. Longwalls</b> Colinet-JF; Spencer-ER; Jankowski-RA   In: Proceedings of the 6th International Mine Ventilation Congress, Ramani RV, ed., Chapter 55. Society for Mining, Metallurgy, and Exploration, Inc.: Littleton, CO, 1997; :345-351	1997	Publication	Respiratory diseases
<b>Stone Mining Facts - 2001</b> NIOSH   NIOSH Publication No. 2003-133, 2003 Jul; :1-2	2003	Publication	Surveillance and training
<b>Stone Operator Mining Facts - 2002</b> NIOSH   NIOSH Publication No. 2004-126, 2004 Jan; :1	2004	Publication	Surveillance and training
<b>Stone Operator Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-119, 2005 Feb; :1 pp	2005	Publication	Surveillance and training
<b>Strategies For Improving Miners' Training</b> Peters-RH, ed.   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2002-156, Information Circular 9463, 2002 Sep :1-54	2002	Publication	Surveillance and training

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<b>Stratigraphic Subunits and Control of Ground in The Revett Formation, Coeur d'Alene Mining District, Idaho</b> Whyatt-JK; White-BG   Proceedings of the 36th U.S. Rock Mechanics Symposium. New York, NY: Columbia University, paper No. 332, 1997	1997	Publication	Ground control
<b>Stratigraphy of the Proterozoic Revett Formation and its Control on Ag-Pb-Zn Vein Mineralization in the Coeur d'Alene District, Idaho</b> Mauk-JL; White-BG   Econ Geol 99:295-312	2004	Publication	Ground control
<b>Strength and Deformation Properties of Belt Strata, Coeur d'Alene Mining District, ID</b> Whyatt-JK; White-BG; Johnson-JC   Spokane, WA: U.S. Department of the Interior, Bureau of Mines, Report of Investigations 9619. NTIS stock number PB96-159009, 1996; :65 pp	1996	Publication	Ground control
<b>Strength Demands of Line Handlers on the Panama Canal</b> Gallagher-S; Unger-RL   Occupational Ergonomics 3 (3):173-184	2003	Publication	Cumulative injuries; Traumatic injuries
<b>Strength Testing</b> Gallagher S   In: Karwowski W, ed. International Encyclopedia of Ergonomics and Human Factors, 2001, Vol. 1, London, U.K.: Taylor & Francis, Inc., 2001; :330-333	2001	Publication	Cumulative injuries
<b>Stress Measurement of a Jointed Rock Mass During Drift Development</b> Johnson-JC; Larson-MK; Brady-TM; Whyatt-JK; Langston-RB; Kirsten-H   SARES 99: Second Southern African Rock Engineering Symposium, ed. By T.O. Hagan (Sept. 13-15, 1999, Johannesburg, S. Africa). Int Soc Rock Mech, :94-101	1999	Publication	Ground control
<b>Stress Measurements for Safety Decisions in Longwall Coal</b> Zahl-E; Dunford-J; Larson-M; Brady-T; Chen-J   Proceedings, 21st International Conference on Ground Control in Mining (Morgantown, WV, Aug. 6-8, 2002), Syd S. Peng, Christopher Mark, A. Wahab, and Keith Heasley, eds., WV University, Morgantown, WV, 2002 Aug; :45-52	2002	Publication	Ground control
<b>Structural Stress and Concentration of Mining-Induced Seismicity</b> Whyatt-JK; White-BG; Blake-W   Trans SME, Vol. 300,1997; :74-82	1997	Publication	Ground control
<b>Studies of Bit Wear and Respirable Dust Generation</b> Organiscak-JA; Khair-AW; Ahmad-M   Trans Soc Min Eng, Vol. 298, Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc.; :1874-1879	1996	Publication	Respiratory diseases
<b>Studies of the Measurement of Respirable Coal Dusts and Diesel Particulate Matter</b> Litton-CD   Meas Sci Technol, 2002 Feb 13(3):365-374	2002	Publication	Respiratory diseases
<b>Submicrometer Elemental Carbon as a Selective Measure of Diesel Particulate Matter in Coal Mines</b> Birch-ME; Noll-JD   J Environ Monit 2004 Oct; 6(10), 2004 Oct; :799-806	2004	Publication	Respiratory diseases
<b>Subsidence Prediction Using a Laminated, Boundary-Element Program</b> Heasley-KA; Barton-TM   International Journal of Rock Mechanics and Mining Science, NARMS 98 - 3rd North American Rock Mechanics Symposium, Cancun, Mexico 1998 Jun/July, 35(4/5), Paper number USA-907 :381-390	1998	Publication	Ground control
<b>Suggestion of a Cause-and-Effect Relationship Among Coal Rank, Airborne Dust, and Incidence of Workers' Pneumoconiosis</b> Page-SJ; Organiscak-JA   Am Ind Hyg Assoc J, 2000 Nov-Dec 61(6) 2000; :785-787	2000	Publication	Respiratory diseases
<b>Supplementing Your Dust Control Equipment with Whole-Plant Ventilation</b> Cecala-AB   Powder and Bulk Eng, 12(1), 1998 Jan; :19-32	1998	Publication	Respiratory diseases
<b>Support Apparatus with Stress Measuring Capability</b> Martin-LA; Curtin-RP   U.S. Patent #6311564 (granted Nov. 2001); Australia Patent #738265 (granted Jan. 2002); UK Patent #GB2350200 (granted Jan. 2002)	2001	Patent	Ground control

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<b>Surface Haulage Truck Research</b> Boldt-CMK; Backer-RR   Am J Ind Med, 1999 Sep 36(S1):66-68	1999	Publication	Surveillance and training; Traumatic injuries
<b>Surface Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-118, 2005 Feb; :1 pp	2005	Publication	Surveillance and training
<b>Surveillance of Disaster - A View From the Denominator</b> Chaiken-RF   Disaster and Emergency Management: International Challenges for the Next Decade, 1998 May; :37-45	1998	Publication	Surveillance and training
<b>Systematic Comparison of Different Seats on Shuttle Cars Used in Underground Coal Mines</b> Kittusamy-NK; Mayton-AG; Jobes-CC; Ambrose-DH   Proceedings of the 32nd International Congress and Exposition on Noise Control Engineering, Jeju International Convention Center (Seogwipo, Korea; August 25-28, 2003)	2003	Publication	Cumulative injuries; Traumatic injuries
<b>Systems Approach to Design</b> Unger-RL   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/systemdesign/systemdesign.htm">http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/systemdesign/systemdesign.htm</a>	1997	Web document	Traumatic injuries
<b>Task Analysis</b> Unger-RL   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/ergonomics/taskanalysis/taskanalysis.htm">http://www.cdc.gov/niosh/mining/topics/ergonomics/taskanalysis/taskanalysis.htm</a>	1997	Web document	Cumulative injuries
<b>Teaching Miners: Breaking the Barriers to Learning</b> Cullen-E   Minesafe International 2003. Perth, Western Australia: The Chamber of Minerals and Energy of Western Australia, Inc., 2003 Oct; :1-8	2003	Publication	Surveillance and training
<b>Technologies for Today's Mine Emergency Responders</b> Conti-RS; Chasko-LL   In: Proceedings of the Seventh Annual Conference of The International Emergency Management Society (TIEMS), 2000; :105-121	2000	Publication	Mine disasters
<b>Technologies for Today's Mine Emergency Responders</b> Conti-RS; Chasko-LL   International Journal of Emergency Management, 1(1); :13-29	2001	Publication	Mine disasters
<b>Technology For Remote Mine Seal Construction</b> Trevits-MA; Urosek-JE   2002 SME Annual Meeting, Feb 25-27, Phoenix, Arizona, preprint 02-185. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2002 Feb; :1-4	2002	Publication	Mine disasters
<b>Technology News 453 - Navigation and Control of Continuous Mining Systems for Coal Mining</b> USBM   Pittsburgh, PA, US Bureau of Mines, Technology News 453, 1996 Jan; :1-2	1996	Publication	Traumatic injuries
<b>Technology News 455 - Roof Hazard Alert Modules</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 455, 1997 May; :1-2	1997	Publication	Ground control
<b>Technology News 456 - A Fault Detection Neural Network for DC Trolley System Protection</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 456, 1997 May :1-2	1997	Publication	Traumatic injuries



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<b>Technology News 457 - Online Access to Mining Health and Safety Research via the Common Information Service System (CISS)</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 457, 1997 May; :1-2	1997	Publication	All
<b>Technology News 458 - Development of a Research Facility to Improve Mine Hoisting and Ore Pass Safety</b> NIOSH   Spokane, WA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 458, 1997 May :1-2	1997	Publication	Traumatic injuries
<b>Technology News 459 - Ergonomic Seat Reduces Shock for Low-Seam Shuttle Car Operators</b> Mayton-AG; Gallagher-S   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 459, 1997 May :1-2	1997	Publication	Cumulative injuries; Traumatic injuries
<b>Technology News 460 - Prototype Borehole Miner Selectively Extracts Gold from Permafrost</b> Savanick-GA; Miller-AL   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 460, 1997 Jul; :1-2	1997	Publication	Traumatic injuries
<b>Technology News 461 - Coal Dust Explosibility Meter</b> Lucci-CE; Cashdollar-KL   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 461, 1997 Jul :1-2	1997	Publication	Mine disasters
<b>Technology News 462 - Ground Penetrating Radar for Highwall Guidance</b> Mowrey-GL   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 462, 1997 Jul :1-2	1997	Publication	Traumatic injuries
<b>Technology News 463 - Machine-Mounted Continuous Respirable Dust Monitor</b> Williams-KL; Cantrell-BK   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, Technology News 463, 1997 Jul :1-2	1997	Publication	Respiratory diseases
<b>Technology News 464 - Analysis of Retreat Mining Pillar Stability (ARMPS): Version 4.0 for Windows</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 464, 1997 Jul; :1-2	1997	Publication	Ground control
<b>Technology News 465 - Method for Predicting Methane Emissions on Extended Longwall Faces</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 465, 1997 Nov; :1-2	1997	Publication	Ground control
<b>Technology News 466 - Use of Seismic Tomography to Identify Geologic Hazards in Underground Mines</b> Scott-D; Williams-T   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 466, 1997 Nov; :1-2	1997	Publication	Ground control
<b>Technology News 467 - Wood Crib Performance Model</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH 1997 Nov; :1-2	1997	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Technology News 468 - Tests of Doppler Radar Technology for Haulage Truck Backup Alarms</b> Backer-R; Boldt-CMK   Spokane, WA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 468, 1997 Dec :1-2	1997	Publication	Traumatic injuries
<b>Technology News 469 - Sensors Warn of Hazards During Mine Hoisting</b> Beus-MJ; Iverson-S; Cullen-E   Spokane, WA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 469, 1998 Feb :1-2	1998	Publication	Traumatic injuries
<b>Technology News 470 - Analysis of Hangups and Structural Failure in Underground Mine Ore Passes</b> Stewart-B; Iverson-S; Cullen-E   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 470, 1998 Feb :1-2	1998	Publication	Ground control
<b>Technology News 471 - Innovative Hazard Recognition Training for Underground Limestone Miners</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 471, 1998 May; :1-2	1998	Publication	Ground control; Surveillance and training
<b>Technology News 472 - Ventilation of a 40-Foot, Two-Pass, Extended Cut</b> Thimons-ED; Taylor-CD   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, Technology News 472, 1998 May; :1-2	1998	Publication	Mine disasters
<b>Technology News 473 - The Explosion Hazard From Hydrogen Gas Generation Inside Sealed Frames</b> Zlochower-IA   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 473, 1998 Jun :1-2	1998	Publication	Mine disasters
<b>Technology News 474 - A Passive Means to Detect Hot Trolley Insulators</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 474, 1998 Aug; :1-2	1998	Publication	Traumatic injuries
<b>Technology News 475 - Roof Monitoring Safety System for Underground Stone Mines</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 475, 1998; :1-2	1998	Publication	Ground control
<b>Technology News 476 - Instrumented King Wire for Monitoring Cable Bolts</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 476, 1998 Nov :1-2	1998	Publication	Ground control
<b>Technology News 477 - A Systems Safety Approach for Programmable Electronics</b> Sammarco-JJ   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 477, 1999 Aug; :1-2	1999	Publication (guidelines)	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Technology News 478 - Apparatus for Measuring the Gas Content of Coal or Rock Core Samples</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, Technology News 478, 1999 Aug; :1-2	1999	Publication	Mine disasters
<b>Technology News 479 - Ore Pass Level and Blockage Locator Device</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 479, 2000 Jan :1-2	2000	Publication	Traumatic injuries
<b>Technology News 480 - Controlled Start for Drill Motors on Roof Bolting Machines</b> DuCarme-JP   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 480, 2000 Feb :1-4	2000	Publication	Traumatic injuries
<b>Technology News 481 - Update: Roof Monitoring Safety System for Underground Stone Mines</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 481, 2000 Jun; :1-2	2000	Publication	Ground control
<b>Technology News 482 - Ground Support Safety Training Video</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 482, 2000 Jul :1-2	2000	Publication	Ground control; Surveillance and training
<b>Technology News 483 - Safety Training Tools for Rock Scaling Personnel</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 483, 2001 Jan :1-2	2001	Publication	Ground control; Surveillance and training
<b>Technology News 484 - Devices to Monitor Blind Spots Near Large Haulage Equipment</b> Ruff-TM   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 484, 2001 Jan :1-2	2001	Publication	Traumatic injuries
<b>Technology News 485 - Improved Cab Air Inlet Location Reduces Dust Levels and Air Filter Loading Rates</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 485, 2001 Feb :1-2	2001	Publication	Respiratory diseases
<b>Technology News 486 - Floor Heaters Can Increase Operator's Dust Exposure in Enclosed Cabs</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 486, 2001 Mar :1-2	2001	Publication	Respiratory diseases
<b>Technology News 487 - Sweeping Compound Application Reduces Dust From Soiled Floors Within Enclosed Operator Cabs</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 487, 2001 Mar :1-2	2001	Publication	Respiratory diseases
<b>Technology News 488 - Migration of Blasting Fumes into a Western Pennsylvania Home</b> NIOSH   Pittsburgh, PA: US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 488, May 2001; :1-4	2001	Publication	Traumatic injuries

Title	Year	Output Type	Strategic Goal
<b>Technology News 489 - Reducing the Danger of Explosions in Sealed Areas (Gobs) in Mines</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 489, 2001 Jun :1-2	2001	Publication	Mine disasters
<b>Technology News 490 - An Inexpensive Device for Monitoring Explosions in Sealed Areas of Underground Mines</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 490, 2001 Jun :1-2	2001	Publication	Mine disasters
<b>Technology News 491 - NIOSH Releases Two New Safety Training Videos</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 491, 2001 Jun :1-2	2001	Publication	Surveillance and training
<b>Technology News 492 - Proceedings of the Second International Workshop on Coal Pillar Mechanics and Design</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 492, 2001 Aug; :1-2	2001	Publication	Ground control
<b>Technology News 493 - Proceedings: New Technology for Coal Mine Roof Support</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 493, 2001 Aug :1-2	2001	Publication	Ground control
<b>Technology News 494 - Expert Miner Training Video Released by NIOSH</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 494, 2002 Mar :1-2	2002	Publication	Surveillance and training
<b>Technology News 495 - NIOSH Releases New Educational Video: Recovery of Farmington No. 9 - An Interview with Danny Kuhn</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 495, 2002 Mar; :1-2	2002	Publication	Mine disasters; Surveillance and training
<b>Technology News 496 - NIOSH Releases New Computer-Based Training Exercise Called MERITS</b> Reinke-D; Mallett-L   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 496, 2002 June; :1-2	2002	Publication	Mine disasters; Surveillance and training
<b>Technology News 497 - "You Are My Sunshine": A New Video Release From NIOSH on the Sunshine Mine Fire</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 497, 2002 Aug; :1-2	2002	Publication	Mine disasters; Surveillance and training
<b>Technology News 498 - Multiple Fire Sensors for Mine Fire Detection and Nuisance Discrimination</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 498, 2002 Sep :1-2	2002	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Technology News 499 - Using Propeller Fans to Improve Ventilation in Large-Entry Stone Mines</b> Grau-RH III; Robertson-SB   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 499, 2002 Dec :1-2	2002	Publication	Mine disasters
<b>Technology News 500 - Using In-Place Stone Stoppings to Direct Air in Underground Stone Mines</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 500, 2002 Dec :1-2	2002	Publication	Mine disasters; Respiratory diseases
<b>Technology News 501 - Measuring Very Low Air Velocities in Underground Metal/Nonmetal Mines</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 501, 2003	2003	Publication	Mine disasters
<b>Technology News 502 - New Training Video for Aggregate Operators: Aggregate Training for the Safety Impaired</b> Cullen-E   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 502, January 2003	2003	Publication	Surveillance and training; Traumatic injuries
<b>Technology News 503 - HAZCOM Helper: Compliance Tool for MSHA Rule 30 CFR Part 47</b> Scott-D; Drake-P   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 503, 2003 Mar; :1-2	2003	Publication	Surveillance and training
<b>Technology News 504 - NIOSH Releases New AHSEM and ARBS Software Programs to Improve Ground Control</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 504, 2003 Apr; :1-2	2003	Publication	Ground control
<b>Technology News 505 - NIOSH Releases New Coal Mine Roof Rating Software</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 505, April 2003; :1-2	2003	Publication	Ground control
<b>Technology News 506 - The Sky is Falling!: NIOSH Releases Safety Video for Surface Mining Operations</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 506, 2004 Aug; :1-2	2004	Publication	Ground control; Surveillance and training
<b>Technology News 507 - NIOSH Safety Talk: The Emergency Communication Triangle</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 507, 2004 Sep; :1-2	2004	Publication	Mine disasters; Surveillance and training
<b>Technology News 508 - NIOSH Releases New Safety Video: Make It Safer With Roof Screen</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 508, 2005 Mar; :1-2	2005	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>Technology News 509 - A New Method to Clean Dust From Soiled Work Clothes</b> Cecala-AB; Pollock-DE   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, NIOSH Publication No. 2005-136, Technology News 509, 2005 May; :1-2	2005	Publication	Respiratory diseases
<b>Technology News 510 - HazCom Helper - OSHA Version: Compliance Tool For OSHA Rule 29 CFR 1910.1200</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 510, 2005 Oct; :1-2	2005	Publication	Surveillance and training
<b>Technology News 512 - Improve Drill Dust Collector Capture Through Better Shroud and Inlet Configurations</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Technology News 512, 2005 Oct; :1-2	2005	Publication	Respiratory diseases
<b>Technology To Reduce Mine Hoisting Accidents</b> Ruff-T; Beus-M   Engineering and Mining Journal, vol. 200, no. 12, Dec. 1999; :30, 32	1999	Publication	Traumatic injuries
<b>Tell Me a Story: Why Stories are Essential to Effective Safety Training</b> Cullen-ET   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Pub. No. 2005-152, Report of Investigations 9664	2005	Publication	Surveillance and training
<b>Tell Me a Story: Using Narrative to Teach Safety to Skilled Blue-Collar Workers</b> Cullen-E   In: Proceedings, Risk and Safety Management in Industry, Logistics, Transport, and Military Service: New Solutions for the 21st Century. London: U.S. Navy, Office Of Naval Research, International Field Office, 2003 Mar; :1-4	2003	Publication	Surveillance and training
<b>Temperature Corrections to Earth Pressure Cells Embedded in Backfill</b> Tesarik-DR; Seymour-JB; Williams-TJ; Martin-LA; Jones-FM   NIOSH Report of Investigations # 9665, Spokane, WA, December, 2005. 32pp.	2005	Publication	Ground control
<b>Temporal Imaging Of Mine-Induced Stress Change Using Seismic Tomography</b> Friedel-MJ; Scott-DF; Williams-TJ   Eng Geol, 46(2), 1997 Jan; :131-141	1997	Publication	Ground control
<b>Test Report on the Machine-Mounted Continuous Respirable Dust Monitor</b> Kissell-FN; Thimons-ED   Proc Seventh International Mine Ventilation Congress, 2001, (Krakow, Poland); :253-260	2001	Publication	Respiratory diseases
<b>Test Results of Collision Warning Systems for Surface Mining Dump Trucks</b> Ruff-TM   NIOSH Report of Investigations 9652, 2000 May; :44 pp	2000	Publication	Traumatic injuries
<b>Test Results of Collision Warning Systems on Off-Highway Dump Trucks: Phase 2</b> Ruff-TM   NIOSH Report of Investigations 9654, 2001 Feb; :1-21	2001	Publication	Traumatic injuries
<b>Testing and Evaluation of an Engineering Noise Control on a Longwall Stageloader</b> Bauer-ER; Reeves-ER; Durr-TM; Zuchelli-DR; Armour-D   SME preprint 05-58. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2005; :1-12	2005	Publication	Hearing loss
<b>Testing Diesel Emission Control Techniques</b> Schnakenberg-GH Jr; Bugarski-AD   In: Proceedings of the Diesel Particulate in Mining Conference (Yeppoon, Queensland, Australia)	2004	Publication	Respiratory diseases

Title	Year	Output Type	Strategic Goal
<b>Testing of Diesel Emissions Control Technologies in Isolated Zone</b> Bugarski-AD; Schnakenberg-GH Jr   In: Proceedings of the Mining Diesel Emissions Conference (Markham, Ontario, Canada)	2003	Publication	Respiratory diseases
<b>Tests of Fibre-Reinforced Shotcrete at the Chief Joseph Mine, Butte, Montana</b> Martin-L; Dunford-J; MacLaughlin-M; Cronoble-R   Presentation at annual meeting of SME, Salt Lake City, UT, Feb. 28-Mar. 2, 2005. Preprint 05-20, 2005; :6 pp	2005	Publication	Ground control
<b>The Advance-and-Relieve Mining Method: a Horizontal Stress Control Technique</b> Chase-FE; Mark-C; Mucho-TP; Campbell-PL   In: Proceedings of the 18th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., SMorgantown, WV: West Virginia University, 1999; :300-308	1999	Publication	Ground control
<b>The Aging Workforce: An Emerging Issue in the Mining Industry</b> Fotta-B; Bockosh-G   Proc 31st Ann Inst Min Health Saf Res. Blacksburg, VA: Virginia Polytechnic Institute and State University, Dept of Mining and Minerals Engineering, 2000; :33-45	2000	Publication	Surveillance and training
<b>The Calculated Risk of Experiencing a Lightning Caused Unplanned Detonation</b> Santis-LD   Proc Fourteenth Annual Symposium on Explosives and Blasting Research, International Society of Explosives Engineers, 1998 Feb :107-119	1998	Publication	Traumatic injuries
<b>The Challenge of Enforcing Safety Rules in Remote Hazardous Work Areas</b> Peters-RH   Presented at Work, Stress, and Health '99: Organization of Work in a Global Economy Conference, Baltimore, MD, March 13, 1999, :13 pp.	1999	Publication	Surveillance and training
<b>The Changing Organization of Work and the Safety and Health of Working People</b> NIOSH   Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, NIOSH, DHHS (NIOSH) Pub No. 2002-116, 2002	2002	Publication	Surveillance and training
<b>The Coal Mine Roof Rating in Mining Engineering Practice</b> Mark-C; Molinda-GM   In: Aziz N, Kininmonth B, eds. Proceedings of the Fourth Underground Coal Operators' Conference. Carlton, Australia: Australian Institute of Mining and Metallurgy	2003	Publication	Ground control
<b>The Concept of Degraded Images Applied to Hazard Recognition Training in Mining for Reduction of Lost-Time Injuries</b> Kowalski-Trakofler-KM; Barrett-EA   J Saf Res 2003; 34(5):515-525	2003	Publication	Surveillance and training
<b>The Consequences of 'Leaky' Enclosures</b> Byrne-DC   SV. Sound and Vibration, 2002 Jan :36-38	2002	Publication	Hearing loss
<b>The Cost of Respirable Coal Mine Dust: An Analysis Based on New Black Lung Claims</b> Page-SJ; Organiscak-JA; Lichtman-K   Appl Occup Environ Hyg 12(12), 1997; :832-839	1997	Publication	Respiratory diseases
<b>The Cost Relationship Between Performance Engineering and Human Behavior</b> Lineberry-GT; Wiehagen-WJ   Trans Soc Min Eng, 298, 1996; :319-326	1996	Publication	Surveillance and training
<b>The Critical Ventilation Velocity in Tunnel Fires - A Computer Simulation</b> Hwang-CC; Edwards-JC   Fire Safety Journal, 2005 Apr; 40(3):213-244	2005	Publication	Mine disasters
<b>The Effect of Standing Support Stiffness on Primary and Secondary Bolting Systems</b> Tadolini-SC; Barczak-TM; Zhang-Y   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003 Aug; pp. 300-307	2003	Publication	Ground control



Title	Year	Output Type	Strategic Goal
<b>The Effectiveness of Selected Technologies in Controlling Diesel Emissions in an Underground Mine: Isolated Zone Study at Stillwater Mining Company's Nye Mine</b> Bugarski-AD; Schnakenberg-GH; Noll-JD; Mischler-S; Patts-L; Hummer-J, et al.   Final report to Metal/Nonmetal Diesel Partnership, Jan 5, 2004, <a href="http://www.msha.gov/01-995/dpmdocs/stillwater.pdf">http://www.msha.gov/01-995/dpmdocs/stillwater.pdf</a>	2004	Publication	Respiratory diseases
<b>The Effectiveness of Selected Technologies in Controlling Diesel Emissions in an Underground Mine: Isolated Zone Study at Stillwater Mining Company's Nye Mine</b> Bugarski-AD; Schnakenberg-GH; Noll-JD; Mischler-SE; Patts-LD; Hummer-J; Vanderslice-SE; Crum-M; Anderson-R   Proceedings of Diesel Particulate in Mining Conference, Sponsored by Australian Journal of Mining, Yeppoon, Queensland, Australia, June 8-9, 2004	2004	Publication	Respiratory diseases
<b>The Effects of Cable Capacitance on Longwall Power Systems</b> Novak-T; Basar-J; Sottile-J; Kohler-JL   In: Proceedings of the 38th Annual IEEE - IAS Meetings (October 13-17, 2003), Salt Lake City, UT, 2003 Oct; :1615-1621	2003	Publication	Traumatic injuries
<b>The Effects of Cable Capacitance on Longwall Power Systems</b> Novak-T; Basar-J; Sottile-J; Kohler-JL   IEEE Trans Ind Appl 40(5), 2004; :1406-1412	2004	Publication	Traumatic injuries
<b>The Effects of Disaster on Workers: A Study of Burnout in Investigators of Serious Accidents and Fatalities in the U.S. Mining Industry</b> Kowalski KM; Podlesny A   Contingencies, emergency, crisis, and disaster management: emergency management in the third millennium--Proceedings of the Seventh Annual Conference of The International Emergency Management Society, Orlando, FL, May 16-19, 2000. Alachua County, FL: The International Emergency Management Society (TIEMS),2000 May; :68-80	2000	Publication	Mine disasters
<b>The Effects of Lifting Posture on Trunk Muscle Activity</b> Hamrick-CA; Gallagher-S   In: Karwowski W, Wogalter MS, Dempsey PG, eds. Ergonomics and musculoskeletal disorders: research on manual materials handling, 1983-1996, Human Factors and Ergonomics Society, 1997; :28-132	1997	Publication	Cumulative injuries
<b>The Effects of Low Quartz Mass Loading and Spatial Variability on the Quartz Analysis of Surface Coal Mine Dust Samples</b> Page-S; Organiscak-J; Mal-T   Appl Occup Environ Hyg 16(9), 2001 Sept; :910-923	2001	Publication	Respiratory diseases
<b>The Effects of Restricted Workspace on Lumbar Spine Loading</b> Gallagher-S; Hamrick-CA; Cornelius-KM; Redfern-MS   Occupational Ergonomics 2(4), 2001; :201-213	2001	Publication	Cumulative injuries
<b>The Effects of Ventilation and Preburn Time on Water Mist Extinguishing of Diesel Fuel Pool Fires</b> Yuan-L; Lazzara-CP   J Fire Sci 22(5), 2004 Sep; :379-404	2004	Publication	Mine disasters
<b>The Emergency Communication Triangle</b> Mallett-L; Vaught-C; Brnich-MJ   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 99-157, 1999 Oct; :1-16	1999	Publication	Mine disasters; Surveillance and training
<b>The Evolving Mining Workforce: Training Issues</b> Kowalski-KM; Vaught-C; Brnich-MJ; Mallett-L; Reinke-D; Rethi-L; Steiner-L; Wiehagen-W   Proc 32nd Ann Inst Min Health Saf Res 2001 Aug :75-90	2001	Publication	Surveillance and training
<b>The Forgotten Denominator: Pillar Loading</b> Heasley-KA   Pacific Rocks 2000 - Proc Fourth North American Rock Mechanics Symposium, 2000, J. Girard, M. Liebman, C. Breeds, T. Doe, eds., Rotterdam, Netherlands: Balkema, 2000; :457-464	2000	Publication	Ground control
<b>The Future of Mine Health and Safety Research</b> Grayson-RL   In: Proceedings of the Workshop on the Future of Mining Research. Blacksburg, VA: Virginia Polytechnic Institute and State University	1998	Publication	All
<b>The Impact of Extended Depth-of-Cut Mining on Coal Mine Ground Control and Worker Safety [Dissertation]</b> Bauer-ER   University Park, PA: The Pennsylvania State University, Department of Mining Engineering	1998	Publication	Ground control

Title	Year	Output Type	Strategic Goal
<b>The Influence of Seam Height on Lost-Time Injury and Fatality Rates at Small Underground Bituminous Coal Mines</b> Peters-R; Fotta-B; Mallett-L   Appl Occup Env Hyg 16(11), 2001 Nov; :1028-1034	2001	Publication	Surveillance and training
<b>The Influence of Torso Flexion on Fatigue Failure of Lumbosacral Motion Segments</b> Marras-WS; Gallagher-S; Litsky-AS; Burr-D   In: Transactions of the 50th Annual Meeting of the Orthopaedic Research Society. Vol 29. Rosemont, IL: Orthopaedic Research Society, poster No. 1119, 2004	2004	Publication	Cumulative injuries
<b>The Introduction of Roof Bolting to U.S. Underground Coal Mines (1948-1960): A Cautionary Tale</b> Mark-C   21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :150-160	2002	Publication	Ground control
<b>The Lewis and Clark Line and Coeur d'Alene Mining District</b> White-B; Winston-W; Lange-I   In: Roberts S, Winston D, eds. Geologic Field Trips, Western Montana and Adjacent Areas. University of Montana, Missoula, and Western Montana College of the University of Montana, Dillon, pp. 103-122	2000	Publication	Ground control
<b>The Long-term Performance of Surface Support Liners for Ground Control in an Underground Limestone Mine</b> Pappas-DM; Barton-TM; Weiss-ES   In: Hadjigeorgiou J, ed. Proceedings of the Third International Seminar on Surface Support Liners: Thin Spray-On Liners, Shotcrete, and Mesh (Quebec City, Canada, August 25-26, 2003). Section 10, 2003 Aug; :1-22	2003	Publication	Ground control
<b>The Modified Direct Method: A Solution for Obtaining Accurate Coal Desorption Measurements</b> Diamond WP; Schatzel SJ; Garcia F; Ulery JP   Proc Intl Coalbed Methane Symp, 2001, Tuscaloosa, AL: University of Alabama; :331-342	2001	Publication	Mine disasters
<b>The NIOSH Shield Hydraulics Inspection And Evaluation Of Leg Data (Shield) Computer Program</b> Barczak-TM; Conover-DP   21st International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2002 Aug; :27-38	2002	Publication	Ground control
<b>The Relationship of Roof Movement and Strata-Induced Microseismic Emissions to Roof Falls</b> Iannacchione-AT; Coyle-PR; Prosser-LJ; Marshall-TE; Litsenberger-J   2004 SME Annual Meeting, Feb 23-25, Denver, Colorado, preprint 04-58. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004 Feb; :1-9	2004	Publication	Ground control
<b>The Role of ASTM E27 Methods in Hazard Assessment: Part II - Flammability and Ignitability</b> Britton-LG; Cashdollar-KL; Fenlon-W; Frurip-D; Going-J; Harrison-BK; Niemeier-J; Ural-EA   Process Saf Prog 24(1), 2005; :12-28	2005	Publication	Mine disasters
<b>The Role of Specific Absorption in Defining Explosibility of Coal Dust/Air and Coal Dust/Rock Dust/Air Mixtures</b> Litton-CD   In: Proceedings of the Eighth International Symposium on Transport Phenomena in Combustion. Vol. 2, 1995; :1441-1452	1996	Publication	Respiratory diseases
<b>The Role of Total Mining Experience on Mining Injuries and Illnesses in the United States</b> Coleman-PJ   In: Proceedings of the China International Forum on Work Safety (Beijing, China, October 10-12, 2002). Beijing: State Administration of Work Safety (SAWS); :331-336	2002	Publication	Surveillance and training
<b>The Safety and Health of Emergency Workers</b> Kowalski-KM; Vaught-C   J Contingencies Crisis Manag 2001 Sep; 9(3):138-143	2001	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>The Settlement and Degradation of Nondurable Shales Associated with Coal Mine Waste Embankments</b> Pappas-DM; Vallejo-LE   In: Hudson JA, ed. Proceedings of the 36th U.S. Rock Mechanics Symposium, New York, NY: Columbia University, Paper No. 241, 1997	1997	Publication	Ground control
<b>The State of Mining Research in NIOSH</b> Grayson-RL   In: Proceedings of the Eighth U.S. Mine Ventilation Symposium, Tien JC, ed., Rolla, MO: University of Missouri-Rolla Press	1999	Publication	All
<b>The State-Of-The-Art in Coal Pillar Design</b> Mark-C   SME Preprint 99-86. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 1999 Mar; :1-8	1999	Publication	Ground control
<b>The Uniaxial Compressive Strength of Coal: Should It Be Used to Design Pillars?</b> Mark-C; Barton-TM   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :61-78	1996	Publication	Ground control
<b>The Use of Computers in the Coal Industries</b> Murphy-JN   In: Thompson SD, Grayson RL, Wang YJ, eds. Proceedings of the Fifth Conference on the Use of Computers in the Coal Industry. Morgantown, WV: West Virginia University, 1996; :223-225	1996	Publication	Surveillance and training
<b>The Use of Light Scattering and Ion Chamber Responses for the Detection of Fires in Diesel Contaminated Atmospheres</b> Litton-CD   Fire Saf J, 2002 Jun 37(4):409-425	2002	Publication	Mine disasters
<b>The Work Crew Performance Model: A Method for Defining and Building Upon the Expertise Within an Experienced Work Force</b> Wiehagen-WJ; Linberry-GT; Rethi-LL   Trans Soc Min Eng, Vol. 298, 1996; :1925-1931	1996	Publication	Surveillance and training
<b>Thermal Imaging Cameras and Their Use in the Mining Industry</b> Conti-RS; Chasko-LL   Society for Mining, Metallurgy, and Exploration, Inc., Littleton, CO, Transactions 2002, Vol. 312, 2002; :1-7	2002	Publication	Mine disasters
<b>Thermal Modeling of Portable Power Cables</b> Yenchek-MR; Cole-GP   IEEE Transactions on Industry Applications 33(1), 1997; :72-79	1997	Publication	Traumatic injuries
<b>Thermal Stability of ANFO Made with Recycled Oil</b> Ruhe-TC; Bajpayee-TS   In: Proceedings of the 25th Annual Conference on Explosives and Blasting Technique (Nashville, TN, Feb. 7-10, 1999). Vol. 2. Cleveland, OH: International Society of Explosives Engineers, 1999 Feb; :263-271	1999	Publication	Traumatic injuries
<b>Three Dimensional Microseismic Monitoring of a Utah Longwall</b> Ellenberger-JL; Heasley-KA; Swanson-PL; Mercier-J   Rock Mechanics in the National Interest. Vol. II, Lisse, Netherlands: A. A. Balkema, 2001 Jul; :1321-1326	2001	Publication	Ground control
<b>Three Laboratory Tests for Explosive Ruggedness</b> Wieland-MS   In: Proceedings of the Annual Symposium on Explosives Blasting Research. Cleveland, OH: Society of Explosive Engineers, 1995; :165-178	1996	Publication	Traumatic injuries
<b>Time-Dependent Rock Mass Motion at the Homestake Mine, Lead, SD</b> Brady, T., J. Johnson, B. Pariseau, M. Stahl, and J. Whyatt   Preprint 00-40, SME annual meeting, Salt Lake City, UT, Feb. 26-Mar. 1, 2000. 2000; : 7 pp.	2000	Publication	Ground control
<b>Tips for Safer Mining Equipment</b> Unger-RL   Holmes Safety Association Bulletin, 1996 Oct; :14-15	1996	Publication	Traumatic injuries
<b>Toolbox Training For Construction Aggregate Miners</b> Boldt-CKM   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication Number 2004-162; 2004 Aug: 1-108	2004	Publication	Surveillance and training; Traumatic injuries

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<b>Torso Flexion Loads and Fatigue Failure Mode of Human Lumbosacral Motion Segments</b> Gallagher-S; Marras-WS; Litsky-AS; Burr-D   Spine 30(20)	2005	Publication	Cumulative injuries
<b>Toward a Typology of Dynamic and Hazardous Work Environments</b> Scharf-T; Vaught-C; Kidd-P; Steiner-LJ; Kowalski-KM; Wiehagen-WJ; Cole-HP   Hum Ecol Risk Assess 2001 Dec; 7(7):1827-1841	2001	Publication	Surveillance and training
<b>Toxic Fume Comparison of a Few Explosives Used in Trench Blasting</b> Harris-ML; Sapko-MJ; Mainiero-RJ   In: Proceedings of the 29th Annual Conference on Explosives and Blasting Technique (Nashville, TN, Feb. 2-5, 2003). Vol. 2. Cleveland, OH: International Society of Explosives Engineers; :319-336	2003	Publication	Traumatic injuries
<b>Training Evaluation Process and Tools</b> Reinke-DC; Mallett-LG   In: Bockosh GR, Kohler JL, Langton JF, Novak T, McCarter MK, Biviano A, eds. Proceedings of the 33rd Annual Institute on Mining Health, Safety and Research. Blacksburg, VA: Virginia Polytechnic Institute and State University, Department of Mining and Minerals Engineering, 2002; :143-152	2002	Publication (guidelines)	Surveillance and training
<b>Training Evaluation Tips</b> Mallett-LG PhD; Reinke-D   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/training/trainingevaluationtips.htm">http://www.cdc.gov/niosh/mining/topics/training/trainingevaluationtips.htm</a>	2003	Web document	Surveillance and training
<b>Training Future Mine Emergency Responders Part 1: Who Should Be Trained and How?</b> Brnich-MJ; Mallett-LG; Vaught-C   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1997 Oct; :3-5	1997	Publication (guidelines)	Surveillance and training
<b>Training Future Mine Emergency Responders Part 2: What Topics Should be Included?</b> Brnich-MJ; Mallett-LG; Vaught-C   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1997 Nov; :3-5	1997	Publication (guidelines)	Mine disasters; Surveillance and training
<b>Training to Improve Emergency Communication Skills</b> Mallett-L; Brnich-MJ; Vaught-C   Disaster and Emergency Management: International Challenges for the Next Decade, 1998 May; :471-476	1998	Publication	Mine disasters
<b>Training: "Highlighted" versus "Degraded" Technique</b> Kowalski-KM   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1997 Nov; :19	1997	Publication	Surveillance and training
<b>Traumatic Incident Stress: Information for Emergency Response Workers</b> NIOSH   NIOSH Publication No. 2002-107, 2002 Jan; :1-2	2002	Publication	Mine disasters
<b>Trunk Extension and Flexion in Standing and Kneeling Postures: Peak Torque and Associated Electromyography of Ten Trunk Muscles</b> Gallagher-S; Hamrick -CA   In: Rastegar S, ed. Proceedings of the 1996 ASME International Mechanical Engineering Congress and Exposition. Atlanta, GA: ASME, 1996; :5-6	1996	Publication	Cumulative injuries
<b>Trunk Extension Strength and Muscle Activity in Standing and Kneeling Postures</b> Gallagher-S   Spine 22(16), 1997 Aug; :1864-1872	1997	Publication	Cumulative injuries
<b>Two Assays for Urinary N-Acetyl-B-D-glucosaminidase Compared</b> Drake-P; Krieg-E; Teass-A; Vallyathan-V   Clinical Chemistry, 2002	2002	Publication	Surveillance and training
<b>Two Case Studies of the Performance of Rib Supports</b> Larson-MK; Dunford-JP   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :527-542	1996	Publication	Ground control

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<b>Tying Acceleration and GPS Location Information Together To Create a Mine Management Tool</b> Miller-RE; Bowman-P; Walden-J; Rhoades-S; Gibbs-R   SME Annual Meeting, March 1-3, 1999, Denver, Colorado; Preprint 99-118; 4 pp	1999	Publication	Cumulative injuries; Traumatic injuries
<b>U.S. Industrial Electrical Incidents, 1992-1998</b> Cawley-JC; Homce-GT   Journal of Safety Research, National Safety Council: 2001; :359	2001	Publication	Traumatic injuries
<b>U.S. Longwall Practices for Controlling Respirable Dust Sources Outby the Shearing Machine</b> Organiscak -JA; Jankowski-RA   In: Proceedings of the International Scientific and Technical Conference on Respirable Dust Hazard Control in the World Mining Industry. Szczyrk, Poland, 1996; :19-25	1996	Publication	Respiratory diseases
<b>UDEC Modeling of an Underground Opening in a Rock Mass of Varying Quality</b> Lasich-TJ; MacLaughlin-MM; Brady-TM   In: McLaughlin M, McNearny R, eds. Proceedings of the 39th Symposium on Engineering Geology and Geotechnical Engineering: Research to Practice (Butte, MT, May 18-19, 2004). Butte, MT: Montana Tech of the University of Montana, 2004	2004	Publication	Ground control
<b>Underground Fire Detection and Nuisance Alarm Discrimination</b> Edwards-JC; Franks-RA; Friel-GF; Lazzara-CP; Opferman-JJ   Coal Age, Intertec Publishing, 106(7), 2001 Jul; :70-72	2001	Publication	Mine disasters
<b>Underground Hazard Recognition Training</b> Barrett-EA; Rethi-LL   Aggregates Manager, 2(11), 1998 Nov; :30-33	1998	Publication	Surveillance and training
<b>Underground Mine Fire Preparedness - Part 1: Part 1 of 4 - Study Overview and Perspective of Underground Mine Fires</b> Wiehagen-WJ; Fowkes-RS; Vaught-C; Conti-RS; Fotta-BA   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Saf Assn Bull, 1997 May; :14-19	1997	Publication	Mine disasters
<b>Underground Mine Fire Preparedness - Part 2: Part 2 of 4 - Preparedness to Evacuate and Miners' Experiences with Incipient Fires</b> Vaught-C; Mallett-LG; Fowkes-RS; Conti-RS; Wiehagen-WJ   Holmes Safety Association Bulletin, 1997 Jul; :1-4	1997	Publication	Mine disasters
<b>Underground Mine Fire Preparedness - Part 3: Part 3 of 4 - Underground Fire-Fighting Experiences And Workers' Perceptions Or Training And Readiness For Fire-Fighting</b> Wiehagen-WJ; Conti-RS; Vaught-C; Fowkes-RS; Brnich-MJ Jr.   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1997 Aug; :3-7	1997	Publication	Mine disasters
<b>Underground Mine Fire Preparedness - Part 4: Part 4 of 4: Suggested Improvements and Implications for Training Miners in Fire-Fighting Preparedness</b> Conti-RS; Wiehagen-WJ; Fowkes-RS; Vaught-C; Brnich-MJ Jr.   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Saf Assn Bull, 1997 Sep; :3-10	1997	Publication	Mine disasters
<b>Underground Mining Facts - 2003</b> NIOSH   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-117, 2005 Feb; :1	2005	Publication	Surveillance and training
<b>Understanding Barriers to Preventive Health Actions on Occupational Noise-Induced Hearing Loss</b> Patel-DS; Witte-K; Zuckerman-C; Murray-Johnson-L; Orrego-V; Maxfield-AM; Meadows-Hogan-S; Tisdale-J; Thimons-ED   J of Health Communications, Vol 6, 2001; :155-168	2001	Publication	Hearing loss
<b>Understanding the Hazard Potentials of Toxic Fumes</b> Weiland-MS   In: Proceedings of the Eighth High-Tech Seminar: Blasting Technology, Instrumentation and Explosives Applications. Allentown, PA: Blasting Analysis International, Inc., 1998; :363-382	1998	Publication	Traumatic injuries

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<b>Understanding Toxic Fumes from Mining Explosives</b> Wieland-MS   In: Proceedings of the Blasting Analysis International, Inc., Seventh High-Tech Seminar, 1997; :93-108	1997	Publication	Traumatic injuries
<b>United States Mining Health and Safety Research</b> Murphy-JN   In: Dhar BB, Bhowmick BC, eds. Proceedings of the 27th International Conference of Safety in Mines Research Institutes. Vol. 1, New Delhi, India: Oxford & IBH Publishing Co. Pvt. Ltd., 1997; :15-19	1997	Publication	All
<b>Update of Span Design Curve for Weak Rock Masses</b> Ouchi-A; Pakalnis-R; Brady-T   CIM Mining Industry Conference and Exhibition, Edmonton, Alberta, Canada, Canada Institute of Mining	2004	Publication	Ground control
<b>Update on Face Ventilation Research For Improved Longwall Dust Control</b> Jankowsk-RA; Colinet-JF   Mining Engineering 52(3), 2000; :45-52	2000	Publication	Respiratory diseases
<b>Update on Mining Health and Safety Research</b> Murphy-JN   Proc 27th Annual Institute on Mining Health, Safety and Research, Blacksburg, VA: Virginia Polytechnic Institute and State University, 1996 Jan; :3-8	1996	Publication	All
<b>Update on the Continuing Functions of the Former US Bureau of Mines</b> Murphy-JN   Min Eng 1997 Jan; :87-89	1997	Publication	All
<b>Update on the Development of Person-Wearable Dust Monitors</b> Volkwein-JC; Kissell-FN   In: Proceedings of the 30th Annual Institute on Mine Safety and Health (Salt Lake City, UT, August 9-11, 1999), 1999	1999	Publication	Respiratory diseases
<b>Update: Mining Health and Safety Research</b> Murphy-JN   Coal Age 102(2), 1997; :40-42	1997	Publication	All
<b>Updating the NIOSH Support Technology Optimization Program (STOP) With New Support Technologies and Additional Design Features</b> Barczak-TM   In: Peng SS, Mark C, Khair AW, eds. Proceedings of the 20th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, 2001 Aug; :337-346	2001	Publication	Ground control
<b>USBM Health and Safety Legacy Continues Under NIOSH</b> Tuchman-RJ   Itasca, IL: National Safety Council, Safety Focus May-June, 1998; :20	1998	Publication	All
<b>Use of a Directional Spray System Design to Control Respirable Dust and Face Gas Concentrations Around a Continuous Mining Machine</b> Goodman-GVR; Pollock-DE   J Occup Environ Hyg 2004 Dec; 1(12), 2004 Dec; :806-815	2004	Publication	Respiratory diseases
<b>Use of a Test Box to Measure Response Times for Machine-Mounted Monitors</b> Taylor-CD; Chilton-JE; Zimmer-JA   In: Ganguli R, Bandopadhyay S, eds. Mine ventilation: Proc 10th U.S./North American Mine Ventilation Symposium, Anchorage, Alaska, May 16-19, 2004. Leiden, Netherlands: Balkema, 2004 May; :177-182	2004	Publication	Mine disasters
<b>Use of Ground Penetrating Radar and Schmidt Hammer Tests to Determine the Structural Integrity of a Mine Seal</b> Trevits-MA; Monaghan-WD; Mowrey-GL; Sapko-MJ; Thomas-RA   Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP), Las Vegas, NV, February 10-14, 2002. Denver, CO: Environmental and Engineering Geophysical Society, 2002 Feb; :1-14	2002	Publication	Mine disasters
<b>Use of Ground Penetrating Radar Technology for Mining Applications</b> Trevits-MA; Monaghan-WD; Mucho-TP   SME preprint 05-129. Littleton, CO: Society for Mining, Metallurgy, and Expotation, Inc., 2005; :1-13.	2005	Publication	Mine disasters
<b>Use of Methane Monitors for Estimating Face Gas Conditions</b> Taylor-CD; Goodman-GVR   Appl Occupational and Environmental Hyg 12(12), 1997 Dec; :947-951	1997	Publication	Mine disasters

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<b>Use of Seismic Tomography To Identify Geologic Hazards in Underground Mines</b> Scott-DF; Williams-TJ; Denton-DK   The Professional Geologist, vol. 35, no. 7, 1998 Jun; :3-5	1998	Publication	Ground control
<b>Use of Simulation Exercises for Safety Training in the U.S. Mining Industry</b> Cole-HP; Wiehagen-WJ; Vaught-C; Mills-BS   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2001-141, Information Circular 9459, 2001 Sep; :1-20	2001	Publication	Cumulative injuries; Surveillance and training
<b>Use of Strain-Gauged Rock Bolts to Measure Rock Mass Strain During Drift Development</b> Johnson-JC; Brady-T; Larson-M; Langston-R; Kirsten-H   Rock Mechanics for Industry, Anadeum Kranz, Scott & Smeallie (eds), 1999 Balkema, Rotterdam, ISBN 90 5809 052 3; 497-502	1999	Publication	Ground control
<b>Using Coal Miners' Experience To Identify Effective Operating Cues</b> Cornelius-KM; Steiner-LJ; Turin-FC   Proceedings of the Human Factors and Ergonomics Society 42nd Annual Meeting, 1998 Oct; :1098-1102	1998	Publication	Cumulative injuries; Traumatic injuries
<b>Using Ergonomics to Enhance Safe Production at a Surface Coal Mine: A Case Study With Powder Crews</b> Wiehagen-W; Torma-Krajewski-J; Peterson-A; Turin-F; Unger-R   In: Proceedings of 2004 Joint Conference on Mine Safety and Health (May 23-28, 2004; Salt Lake City, UT)	2004	Publication	Cumulative injuries
<b>Using Ergonomics to Enhance Safety and Health in the U.S. Mining Industry</b> Steiner-L; Torma-Krajewski-J; Schwerha-D   31st International Conference of Safety in Mines Research Institutes, 2-5 October 2005, Brisbane, Queensland, Australia. Redbank, Queensland, Australia: Safety in Mines Testing and Research Station (Simtars), 2005 Oct; :106-111	2005	Publication	Cumulative injuries
<b>Using Ground Penetrating Radar for Roof Hazard Detection in Underground Mines</b> Molinda-GM; Monaghan-WD; Mowrey-GL; Persetic-GF   Pittsburgh, PA: U.S. Department of Energy, Report of Investigations 9625. NTIS stock number: PB96-188123, 1996 Jan; :1-14	1996	Publication	Ground control
<b>Using Ground Penetrating Radar for Roof Hazard Detection in Underground Mines</b> Molinda-GM; Monaghan-WD; Mowrey-GL; Persetic-GF   In: Thompson SD, Grayson RL, Wang YJ, eds. Proceedings of the Fifth Conference on the Use of Computers in the Coal Industry. Morgantown, WV: West Virginia University, 1996; :193-203	1996	Publication	Ground control
<b>Using Ground Penetrating Radar for Roof Hazard Detection in Underground Mines</b> Molinda-GM; Monaghan-WD; Mowrey-GL; Persetic-GF   In: Ozdemir L, Hanna K, Haramy KY, Peng S, eds. Proceedings of the 15th International Conference on Ground Control in Mining. Golden, CO: Colorado School of Mines, 1996; :385-402	1996	Publication	Ground control
<b>Using Persuasive Messages to Encourage Voluntary Hearing Protection Among Coal Miners</b> Stephenson-MT; Witte-K; Vaught-C. Zuick-BL; Booth-Butterfield-S; Patel-D; Zuckerman-C   J Safe Res 36(1), 2005; :9-17	2005	Publication	Hearing loss
<b>Using Proximate Analysis to Characterize Airborne Dust Generation from Bituminous Coals</b> Page-SJ; Organiscak-JA   Aerosol Sci Tech 2002 Jun; 36(6):721-733	2002	Publication	Respiratory diseases



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<b>Using Site Case Histories of Multiple Seam Coal Mining to Advance Mine Design</b> Ellenberger-JL; Chase-FE; Mark-C; Heasley-KA; Marshall-JK   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd Intl Conf on Ground Control in Mining. Morgantown, WV: West Virginia University, 2003 Aug; :59-64	2003	Publication	Ground control
<b>Using the Coal Mine Roof Rating (CMRR) to Assess Roof Stability in U.S. Coal Mines</b> Molinda-GM; Mark-C; Debasis-D   Journal of Mines, Metals, and Fuels (India) Aug-Sep 2001; :314-321	2001	Publication	Ground control
<b>Using the Extended Parallel Process Model to Prevent Noise-Induced Hearing Loss Among Coal Miners in Appalachia</b> Murray-Johnson-L; Witte-K; Patel-D; Orrego-V; Zuckerman-C; Maxfield-AM; Thimons-ED   Heath Educ Behav 31(6), 2004; :741-755	2004	Publication	Hearing loss
<b>Using the Internet to Train Emergency Command Center Personnel</b> Glowack-AF; Unger-RL; Fries-EF; Kwitowsk-AJ   Contingencies, emergency, crisis, and disaster management: emergency management in the third millennium--Proceedings of the Seventh Annual Conference of The International Emergency Management Society, Orlando, FL, May 16-19, 2000. Alachua County, FL: The International Emergency Management Society (TIEMS), 2000 May; :247-254	2000	Publication	Mine disasters; Surveillance and training
<b>Using the Point Load Test to Determine the Uniaxial Compressive Strength of Coal Measure Rock</b> Rusnak J; Mark C   In: Peng SS, Mark C, eds. Proceedings of the 19th International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University, pp. 362-371	2000	Publication	Ground control
<b>Using Ultrasonic Anemometers to Evaluate Factors Affecting Face Ventilation Effectiveness</b> Taylor-CD; Timko-RJ; Thimons-ED; Mal-T   2005 SME Annual Meeting, February 28 - March 2, Salt Lake City, Utah, preprint 05-80. Littleton, CO, Society for Mining, Metallurgy, and Exploration, Inc., 2005 Feb; :1-7	2005	Publication	Mine disasters
<b>Using Ventilation Control Technology to Reduce Respirable Dust Exposures at US Metal/Nonmetal Mining Operations</b> Cecala-AB; Zimmer-JA; Colinet-JF; Timko-RJ; Chekan-GJ; Pollock-DE   In: Gillies ADS, ed. Proceedings of Eighth International Mine Ventilation Congress (Brisbane, Australia), AusIMM, Victoria, Australia, 2005; :157-165	2005	Publication	Respiratory diseases
<b>Using Water Sprays to Improve Performance of a Flooded-Bed Dust Scrubber</b> Goodman-GV   Applied Occupational and Environmental Hygiene; 15(7), 2000 Jul; 550-560	2000	Publication	Respiratory diseases
<b>Utilizing the 'Advance and Relieve' Method to Reduce Horizontal Stress Affects on the Mine Roof, A Case Study</b> Dolinar-DR; Mucho-TP; Oyler-DC; Pablic-J   In: Proceedings of the 19th International Conference on Ground Control in Mining, Peng SS, Mark C, eds., Morgantown, WV: West Virginia University, 2000 Jan; :137-148	2000	Publication	Ground control
<b>Validation of a Dust Dispersion Model for Haul Trucks</b> Reed-WR   Trans Soc Min Metal Explor. Vol. 316. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc; :163-170	2004	Publication	Respiratory diseases
<b>Validity and Reliability of Sincerity Test for Dynamic Trunk Motions</b> Ferguson-SA; Gallagher-S; Marras-WS   Disability and Rehabilitation 25(4), 2003	2003	Publication	Cumulative injuries
<b>Variation in Dust Levels with Continuous Miner Position</b> Goodman-GVR; Listak-JM   Mining Engineer 51(2),1999; :53-58	1999	Publication	Respiratory diseases
<b>Variation in Dust Levels with Continuous Miner Position</b> Goodman-GVR; Listak-JM   SME preprint 98-130. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc	1998	Publication	Respiratory diseases

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<b>Variation of Horizontal Stresses and Strains in Mines in Bedded Deposits in the Eastern and Midwestern United States</b> Dolinar-DR   In: Peng SS, Mark C, Khair AW, Heasley KA, eds. Proceedings of the 22nd International Conference on Ground Control in Mining. Morgantown, WV: West Virginia University; :178-185	2003	Publication	Ground control
<b>Ventilating the Box Cut of a Two-Pass 40-ft Extended Cut</b> Thimons-ED; Taylor-CD; Zimmer-JA   J Mine Vent Soc S Afr, 52(3), 1999 Jul; :108-115	1999	Publication	Mine disasters
<b>Ventilating the Box Cut of a Two-Pass 40-ft Extended Cut</b> Thimons-ED; Taylor-CD; Zimmer-JA   In: Tien JC, ed. Proceedings of the Eighth U.S. Mine Ventilation Symposium, Rolla, MO: University of Missouri-Rolla Press, 1999; :157-165	1999	Publication	Mine disasters
<b>Ventilation Impacts on Respirable Dust Control</b> Colinet-JF; Chekan-GJ; Listak-JM; Rider-JP   In: De Souza E, ed. Proceedings of the North American/Ninth U.S. Mine Ventilation Symposium (Kingston, Ontario, Canada). Lisse, Netherlands: Balkema, 2002; :565-572	2002	Publication	Respiratory diseases
<b>Ventilation of a 40-Foot, Two-Pass, Extended Cut</b> Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin, 1998 Dec; :5-6	1998	Publication	Mine disasters
<b>Ventilation Planning Layouts for Large Opening Mines</b> Krog-RB; Grau-RH; Mucho-TP; Robertson-SB   2004 SME Annual Meeting, Feb 23-25, Denver, Colorado, preprint 04-187. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004 Feb; :1-9	2004	Publication	Mine disasters; Respiratory diseases
<b>Ventilation Practices on Longwall Faces in the United States</b> Colinet-JF; Jankowski-RA   In: Proceedings of the Fifth International Symposium on Ventilation for Contaminant Control. Ottawa, Ontario, Canada: Session 12-3, 1997	1997	Publication	Mine disasters
<b>Verification and Validation of Roof Bolter Simulation Models for Studying Events Between a Machine and its Operator</b> Bartels-JR; Ambrose-DH; Wang-RC   Society of Automotive Engineers, Inc., technical paper 2001-01-2088, 2001 Jan; :1-14	2001	Publication	Traumatic injuries
<b>Verification of a Roof Bolter Simulation Model</b> Bartels-JR; Kwitowski-AJ; Ambrose-DH   Warrendale, PA: Society of Automotive Engineers, Inc., Technical Paper 2003-01-2217, 2003; :1-7	2003	Publication	Traumatic injuries
<b>Video Motion Detection for Real-Time Hazard Warnings in Surface Mines</b> McHugh-E   2004 SME Annual Meeting, Feb 23-25, Denver, Colorado, preprint 04-74. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2004 Feb; :1-9	2004	Publication	Ground control
<b>Video Motion Detection for Real-Time Hazard Warnings in Surface Mines</b> McHugh-E   SME Transactions 2005 Volume	2005	Publication	Ground control
<b>Virtual Reality for Mine Safety Training</b> Filigenzi-MT; Orr-TJ; Ruff-TM   Applied Occupational and Environmental Hygiene, vol. 15, no. 6, 2000; :465-469	2000	Publication	Surveillance and training
<b>Visibility</b> Unger-RL   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/visibility/visibility.htm">http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/visibility/visibility.htm</a>	1997	Web document	Traumatic injuries
<b>Water Mist Extinguishment of Pool Fires: A Parametric Approach</b> Chaiken-RF; Smith-AC   Presented at the Western States Section of the Combustion Institute, 1998 Spring Meeting, Univ. Of California, Berkeley, CA, Mar. 23-24, 1998; :1-15	1998	Publication	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Water Well Safety Bits: Health And Safety Information For The Water Well Industry</b> Reinke-DC   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-160, Information Circular 9483	2005	Publication	Hearing loss
<b>Waterjet Cleaning of Truck-Mounted Concrete Mixing Tanks</b> Miller-AL; King-GW; Savanik-GA   In: Hashish M, ed. Proceedings of the 2001 WJTA American Waterjet Conference (Aug. 18-21, 2001, Minneapolis, MN). Vol. 2, Paper 40, Waterjet Technology Assoc.; :551-565	2001	Publication	Traumatic injuries
<b>Wearing Hearing Protection Properly: A 3-D Training Aid for Drillers</b> Barrett-EA; Calhoun-RA   US Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2005-107, Information Circular 9472, 2004 Nov :1-15	2004	Publication	Hearing loss; Surveillance and training
<b>Wet Drilling - Technologically Achievable, Administratively Achievable, and Promising Noise Controls (30 CFR Part 62)</b> NIOSH   Information Bulletin P04-18, 2005 ( <a href="http://www.msha.gov/regs/compliance/PIB/2004/pib04-18.pdf">http://www.msha.gov/regs/compliance/PIB/2004/pib04-18.pdf</a> )	2005	Publication (guidelines)	Hearing loss
<b>What Causes Equipment Accidents?</b> Unger-RL   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/equipmentaccidents.htm">http://www.cdc.gov/niosh/mining/topics/machinesafety/equipmentdsgn/equipmentaccidents.htm</a>	1997	Web document	Traumatic injuries
<b>What Difference Does Age Make? Part 1. Mining in All Commodities</b> Schwerha-DJ; Mallett-LG   Joseph A. Holmes Saf Assoc Bull May/June, 2005; :9-16	2005	Publication	Traumatic injuries
<b>What Does a Hearing Loss Sound Like?</b> NIOSH   Web document, <a href="http://www.cdc.gov/niosh/mining/topics/hearingloss/hlsoundslike.htm">www.cdc.gov/niosh/mining/topics/hearingloss/hlsoundslike.htm</a>	2005	Web document	Hearing loss
<b>What Goes Around Comes Around: An Unexpected Benefit from Community Outreach</b> Cullen-E   Far West Bulletin, Summer 1997	1997	Publication	Surveillance and training
<b>What is Human Factors Research?</b> Randolph-RF   Holmes Saf Assn Bull, 1996 Dec; :18	1996	Publication	Cumulative injuries
<b>What Works (and What Doesn't) in Mining Ergonomics</b> Gallagher-S   Falls Church, VA: U.S. Department of Labor, Mine Safety and Health Administration, Holmes Safety Association Bulletin Nov, 1999 Nov; :9-13	1999	Publication	Cumulative injuries
<b>Whole-Body Vibration and Postural Stress among Operators of Construction Equipment: A Literature Review</b> Kittusamy-NK; Buchholz-B   Journal of Safety Research 2004, vol. 35, no. 3, 2004; :255-261	2004	Publication	Cumulative injuries
<b>Wire Rope Retirement Criteria</b> McKewan-WM   Organisation Internationale pour l'Etude de l'Endurance des Cables (OIPEEC) (International Organization for the Study of the Endurance of Wire Ropes) Bulletin 73, 1997; :21-36	1997	Publication	Traumatic injuries
<b>Work Design: Barriers Facing the Integration of Ergonomics Into System Design</b> Steiner-LJ; Vaught-C   In: Karwowski W, ed. International Encyclopedia of Ergonomics and Human Factors. Vol. II. London, U.K.: Taylor & Francis, Inc., 2001; :1437-1440	2001	Publication	Cumulative injuries
<b>Work Principle for Predicting Explosive Toxic Fumes</b> Wieland-MS   Proceedings of the Fourteenth Annual Symp on Explosives and Blasting Research, Intl Soc of Explosives Engineers, 1998 Feb; :121-135	1998	Publication	Traumatic injuries
<b>Work Sampling Applied to a Human Factors Analysis of Mine Worker Positioning</b> Steiner-LJ; Cornelius-KM; Turin-FC; Stock-DM   Proc Human Factors and Ergonomics Society 42nd Annual Meeting, vol 2, 1998 Oct; :1103-1107	1998	Publication	Cumulative injuries

Title	Year	Output Type	Strategic Goal
Worker Exposure and Equipment Noise in Large Surface Coal Mines Bauer-ER; Babich-DR   SME preprint 03-051. Littleton, CO: Society for Mining, Metallurgy, and Exploration, Inc., 2003; :1-6	2003	Publication	Hearing loss
Worker Exposure and Equipment Noise in Large Surface Coal Mines Bauer-ER; Babich-DR   Min Eng 56(4), 2004; :49-54	2004	Publication	Hearing loss
Worker Responses To Realistic Evacuation Training Vaught-C; Mallett-LG; Kowalski-KM; Brnich-MJ Jr   Proceedings of the International Emergency Management Society (TIEMS) Conference 1997, Copenhagen, Denmark: 1997 Jan; :55-62	1997	Publication	Mine disasters
Worker Strength Evaluation: Job Design and Worker Selection Gallagher-S; Moore-JS   In: Karwowski W, Marras WS, eds. The Occupational Ergonomics Handbook, Boca Raton, FL: CRC Press LLC, 1999; :371-386	1999	Publication	Cumulative injuries
Workplace Solutions: Ground Fall Injuries in Underground Stone Mines NIOSH   Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2004-106, 2003 Nov; :1-4	2003	Publication	Ground control
Work-Principle Model for Predicting Toxic Fumes of Nonideal Explosives Wieland-MS   Propellants Explosives Pyrotechnics 29(4), 2004; :236-243	2004	Publication	Traumatic injuries
3+3 SCSR Donning Screen Saver	2001	Software	Mine disasters; Surveillance and training
Aggregate Training for the Safety Impaired Cullen-ET   NIOSH 2003 Dec; :Video (VHS format, 35 minutes)	2003	Video	Surveillance and training; Traumatic injuries
Aggregate Training for the Safety Impaired, Spanish version Cullen-ET   NIOSH 2003; :Video (VHS format, 35 minutes)	2003	Video	Surveillance and training; Traumatic injuries
Air Quantity Estimator (AQE) Grau-RH III; Robertson-SB; Dolgos-JG   NIOSH 2004 Jan; :software	2004	Software	Mine disasters; Respiratory diseases
Analysis of Horizontal Stress Effects in Mining (AHSM) NIOSH   NIOSH, 2004 Sep; :software	2004	Software	Ground control
Analysis of Longwall Pillar Stability (ALPS) Mark-C   NIOSH, 2003 Aug; :software	2003	Software	Ground control
Analysis of Retreat Mining Pillar Stability - Highwall Mining (ARMPS-HWM) NIOSH   NIOSH, 2005 Nov; :software	2005	Software	Ground control
Analysis of Retreat Mining Pillar Stability (ARMPS) NIOSH   NIOSH, 2003 Aug; :software	2003	Software	Ground control
Analysis of Roof Bolt Systems (ARBS) NIOSH   NIOSH, 2003 Aug; :software	2003	Software	Ground control

Title	Year	Output Type	Strategic Goal
<b>Belt Fire Injury</b> USBM   USBM, 1996 May	1996	Training	Mine disasters; Surveillance and training
<b>Care and Maintenance of the SR-100 Self-Contained Self-Rescuer</b> NIOSH   NIOSH, 2002	2002	Training	Mine disasters; Surveillance and training
<b>Clothes Cleaning Process</b> NIOSH   NIOSH 2004 Jan; :Video (VHS format)	2005	Video	Respiratory diseases
<b>Coal Mine Roof Rating (CMRR)</b> NIOSH   NIOSH 2004 Dec; :Software	2004	Software	Ground control
<b>Coal Miner's Chest X-ray Program</b> University of Kentucky; USBM; West Virginia University   USBM 1997 Jul	1997	Training	Respiratory diseases; Surveillance and training
<b>Control Design Principles</b> Unger-RL   NIOSH 1996; web page, <a href="http://www.cdc.gov/niosh/mining/topics/ergonomics/workstation/controldesign/controldesign.htm">http://www.cdc.gov/niosh/mining/topics/ergonomics/workstation/controldesign/controldesign.htm</a>	1996	Web document	Traumatic injuries
<b>Crewstation Analysis Programs (CAP)</b> Unger-RL   NIOSH 1996; :Software	1996	Software	Traumatic injuries
<b>Degraded Image Hazard Recognition</b> NIOSH; Illinois Office of Mines and Minerals; Illinois Eastern Community Colleges   NIOSH 1997 Jan; :21 minutes	1997	Training	Surveillance and training; Traumatic injuries
<b>Draft ASTM International Standard - WK2307, Standard Specification for Selection of Fiber-Optic Cable and System Components for Use in Natural Gas Pipelines</b> ASTM   Technical report ANSI/ISA-TR12.21.01-2004	2004	Standards	Traumatic injuries
<b>Drill Rig Incident</b> Barrett-EA; Calhoun-RA   NIOSH Information Circular IC 9473; 2005 Feb; :1-19	2005	Training	Hearing loss; Surveillance and training
<b>Electric Motor-Driven Mine Equipment and Accessories and High-Voltage Longwall Equipment Standards for Underground Coal Mines</b> Federal Register, Vol. 67, No. 47, March 11, 2002, Rules and Regulations, pp. 10972-11005	2002	Standards	Traumatic injuries
<b>Final Draft International Standard IEC 60079-28 Ed. 1.0: Protection of Equipment and Transmission Systems Using Optical Radiation</b> IEC	2005	Standards	Traumatic injuries
<b>Focus on Prevention: Conducting a Fire Risk Assessment</b> Mallett-L; Brnich-MJ Jr   NIOSH, 1999 Oct :1-6	1999	Training	Mine disasters; Surveillance and training
<b>Ground Control Software Toolbar</b>	2005	Software	Ground control

Title	Year	Output Type	Strategic Goal
<b>Handling Explosives in Underground Mines</b> Cullen-ET   NIOSH 1998 Jan; :Video (VHS format, 15 minutes)	1998	Video	Surveillance and training; Traumatic injuries
<b>HASARD Proximity Warning System</b> Urban-C   NIOSH; :Video (Realmedia format)	2001	Video	Traumatic injuries
<b>Hazard Recognition Training Program for Underground Limestone</b> NIOSH   NIOSH, 1998	1998	Training	Ground control; Surveillance and training; Traumatic injuries
<b>Hazards In Motion</b> Cullen-ET   NIOSH 2001; :Video (VHS format, 30 minutes)	2001	Video	Surveillance and training; Traumatic injuries
<b>HazCom Helper - MSHA Version</b> Scott-DF; Drake-PL; Brady-TM   NIOSH Pub. No. 2003-18. 2003; CD-ROM	2004	Software	Surveillance and training
<b>HazCom Helper - OSHA Version</b> Scott-DF; Drake-PL; Brady-TM   NIOSH Pub. No. 2003-18. 2003; CD-ROM	2005	Software	Surveillance and training
<b>Hearing Loss Simulator (HLSim)</b> NIOSH   Version 2.2.0.26; Windows software; CD-ROM and downloadable ( <a href="http://www.cdc.gov/niosh/mining/products/educationalsoftware.htm">http://www.cdc.gov/niosh/mining/products/educationalsoftware.htm</a> )	2004	Software	Hearing loss
<b>Hidden Scars</b> Cullen-ET   NIOSH 2001 Jan; :Video (VHS format, 25 minutes)	2001	Video	Ground control; Traumatic injuries
<b>High-Voltage Continuous Mining Machines</b> RIN 1219-AB34, Federal Register, July 16, 2004, Vol. 69, No. 136, proposed rules, pp. 42811-42840	2004	Standards	Traumatic injuries
<b>How to Wear Soft Foam Earplugs (Roll-Pull-Hold)</b> Randolph-RF   NIOSH 2003 Mar; :Video (RealMedia format, 30 seconds)	2003	Video	Hearing loss; Surveillance and training
<b>I Can't Get Enough Air! - Proper Self-contained Self-rescuer Usage</b> Brnich-MJ Jr; Vaught-C; Cahoun-RA   NIOSH 1999 Oct; :1-43	1999	Training	Mine disasters; Surveillance and training
<b>LAMODEL and MULSIM/NL Pre-Processor (LAMPRE)</b>	2000	Software	Ground control
<b>LAMODEL post-processor (LAMPLT)</b>	2000	Software	Ground control
<b>Main Haulage Scaling Exercise</b> USBM   USBM 1996	1996	Training	Surveillance and training; Traumatic injuries

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<b>Make it Safer With Roof Screen</b> NIOSH   NIOSH 2004 Jan; :Video (VHS format)	2004	Video	Ground control; Surveillance and training; Traumatic injuries
<b>Mine Emergency Response Interactive Training Simulation (MERITS)</b> NIOSH	2002	Training	Mine disasters; Surveillance and training
<b>Miner Mike Saves the Day! or Ground Support... It's Important!</b> Cullen-ET   NIOSH 2000 Jan; :Video (VHS format, 33 minutes)	2000	Video	Ground control; Surveillance and training
<b>NFPA 120 - Standard for Fire Prevention and Control in Coal Mines</b> National Fire Protection Association   Quincy, MA: National Fire Protection Association	2004	Standards	Mine disasters
<b>NFPA 122 - Standard for Fire Prevention and Control in Metal/Nonmetal Mining and Metal Mineral Processing Facilities</b> National Fire Protection Association   Quincy, MA: National Fire Protection Association	2004	Standards	Mine disasters
<b>Preshift Safety Inspection for Scoops</b> NIOSH   NIOSH, 2001	2001	Training	Surveillance and training; Traumatic injuries
<b>Raggs and Curly Machine Guarding Computer Based Training</b> NIOSH   NIOSH, 2001	2001	Training	Surveillance and training; Traumatic injuries
<b>Ready-Adjust-Operate, NIOSH Dragline Workstation</b> Lewis-P; Rossi-EW   2005 Video	2005	Video	Cumulative injuries
<b>Recovery of Farmington #9: An Interview with Danny Kuhn</b> NIOSH   U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health; :Video (VHS format, 60 minutes)	2000	Video	Mine disasters
<b>Reducing Dust Inside Enclosed Cabs</b> NIOSH   Pittsburgh, PA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. Videocassette	2002	Video	Respiratory diseases
<b>Reducing Dust Inside Enclosed Cabs</b> NIOSH   NIOSH 2001 Jan; :Video (RealMedia format, 7 minutes)	2002	Video	Respiratory diseases
<b>Rock Falls - Preventing Rock Fall Injuries in Underground Mines</b> Miller-A   NIOSH 1999 Jan; :Video (VHS format, 20 minutes)	1999	Video	Ground control
<b>Roof Bolting Simulation</b> Ambrose-DH   NIOSH; :Video (MPV format, 37 seconds)	2003	Video	Cumulative injuries; Traumatic injuries



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Safety with Walk-through Bolters NIOSH   NIOSH, 2001	2001	Training	Surveillance and training; Traumatic injuries
Seating Design Principles Unger-RL   NIOSH 1996; web page, <a href="http://www.cdc.gov/niosh/mining/topics/ergonomics/workstation/seating.htm">http://www.cdc.gov/niosh/mining/topics/ergonomics/workstation/seating.htm</a>	1996	Web document	Cumulative injuries; Traumatic injuries
Stress and Displacement Calculations (LAMODEL) NIOSH	2000	Software	Ground control
Support Technology Optimization Program (STOP) NIOSH	2004	Software	Ground control
The Sky Is Falling Cullen-ET   NIOSH 2004 Aug; :Video (VHS format, 38 minutes)	2004	Video	Ground control; Surveillance and training; Traumatic injuries
The Spokane Resource Cullen-ET   NIOSH 2004; :Video (VHS format, 11 minutes)	2004	Video	Surveillance and training
Toolbox Training for Construction Aggregate Miners NIOSH   NIOSH 2004 Aug: 1-108	2004	Training	Surveillance and training; Traumatic injuries
Trench Safety Awareness Coleman-PJ   NIOSH 2005 Apr	2005	Training	Surveillance and training; Traumatic injuries
Underground Workstation Design Principles Unger-RL   Web page, <a href="http://www.cdc.gov/niosh/mining/topics/ergonomics/workstation/workstationlayout.htm">http://www.cdc.gov/niosh/mining/topics/ergonomics/workstation/workstationlayout.htm</a>	1996	Web document	Traumatic injuries
Vibrational Acceleration Statistical Analysis (VASA) NIOSH	2002	Software	Cumulative injuries; Traumatic injuries
Video Training Modules for Fire Prevention and Preparedness (8 total) NIOSH   NIOSH, 1999	1999	Training	Mine disasters; Surveillance and training
Wearing Hearing Protection Properly: A 3-D Training Aid for Drillers Barrett-EA; Calhoun-RA   NIOSH 2004 Nov; :1-15	2004	Training	Hearing loss; Surveillance and training
You Are My Sunshine Cullen-ET   NIOSH 2002 :Video (VHS format, 69 minutes)	2002	Video	Mine disasters

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<b>Zen and the Art of Rockbolting</b> Cullen-ET   NIOSH 2002 Jan; :Video (VHS format, 33 minutes)	2002	Video	Ground control
<b>2003 Western TRAM Conference</b> NIOSH   Held jointly with the Joseph A. Holmes Safety Association meeting (Reno, NV; June 2003)	2003	Workshop, Seminar, or OIB	Surveillance and training
<b>2004 Train-the-Trainer (T3) Conference</b> NIOSH   Held jointly with the Institute on Mining Health, Safety and Research meeting and ISMSP's Critical Issues Conference (Salt Lake City, UT; May 2004)	2004	Workshop, Seminar, or OIB	Surveillance and training
<b>2005 Train-the-Trainer (T3) Conference</b> NIOSH   Held jointly with the ISMSP's Critical Issues Conference (Reno, NV; May 2005)	2005	Workshop, Seminar, or OIB	Surveillance and training
<b>90-minute workshop at the National Safety Council / World Safety Congress</b> NIOSH   Orlando, FL, Sept. 2005	2005	Workshop, Seminar, or OIB	All
<b>A Look to the Future: the Next 10 Years in NIOSH Mining Health and Safety Research</b> NIOSH   Northwest Mining Association Convention, Dec. 6, 2005	2005	Workshop, Seminar, or OIB	All
<b>A Review of Health &amp; Safety Research at Spokane Research Laboratory</b> NIOSH   NIOSH Open Industry Briefing, held in conjunction with the 105th annual meeting of Northwest Mining Association, Nov. 30, 1999	1999	Workshop, Seminar, or OIB	Surveillance and training
<b>Alternative Methodologies for Evaluating Strength of Mine Seals Workshop</b> NIOSH   Workshop presented to the coal industry, seal manufacturers, MSHA, PA Bureau of Deep Mine Safety, and the United Mine Workers of America (Sept 8, 2004, Pittsburgh, PA; 77 participants)	2004	Workshop, Seminar, or OIB	Mine disasters
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	1997	Workshop, Seminar, or OIB	Ground control
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	1998	Workshop, Seminar, or OIB	Ground control
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	1999	Workshop, Seminar, or OIB	Ground control
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	2000	Workshop, Seminar, or OIB	Ground control
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	2001	Workshop, Seminar, or OIB	Ground control
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	2002	Workshop, Seminar, or OIB	Ground control
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	2003	Workshop, Seminar, or OIB	Ground control
<b>Annual Underground Stone Safety Seminar</b> NIOSH   Held in Evansville, IN; Erlanger, KY; Cincinnati, OH and Louisville, KY.	2004	Workshop, Seminar, or OIB	Ground control

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<b>Best Mining Practices, Surface And Underground</b> Co-sponsored with the Bureau of Land Management Phoenix Training Center, a 1-week seminar, Sept. 1999	1999	Workshop, Seminar, or OIB	Surveillance and training
<b>Coal Noise Partnership Meeting/Workshop</b> NIOSH   Held at NIOSH/PRL, 2005	2005	Workshop, Seminar, or OIB	Hearing loss
<b>Collision Warning Systems for Surface Mining Equipment</b> Ruff-TM   Seminar at the Joint Industry Training Seminar, Western Mining Resource Center, Colorado School of Mines, Golden, CO, Jan. 23, 2001	2001	Workshop, Seminar, or OIB	Traumatic injuries
<b>Demonstration of technologies for mine emergency responders</b> NIOSH   National Metal/Nonmetal Mine Rescue Competition (Las Vegas, NV; July 2000)	2000	Workshop, Seminar, or OIB	Mine disasters
<b>Demonstration of technologies for mine emergency responders</b> NIOSH   National Coal Mine Rescue Competition (Louisville KY; Sept 2001)	2001	Workshop, Seminar, or OIB	Mine disasters
<b>Demonstration of technologies for mine emergency responders</b> NIOSH   National Metal/Nonmetal Mine Rescue Competition (Reno NV; Aug 2002)	2002	Workshop, Seminar, or OIB	Mine disasters
<b>Demonstration of technologies for mine emergency responders</b> NIOSH   National Coal Mine Rescue Competition (Louisville, KY; Sept 2003)	2003	Workshop, Seminar, or OIB	Mine disasters
<b>Demonstration of technologies for mine emergency responders</b> NIOSH   National Metal/Nonmetal Mine Rescue Competition (Reno, NV; July 2004)	2004	Workshop, Seminar, or OIB	Mine disasters
<b>Demonstration of technologies for mine emergency responders</b> NIOSH   National Coal Mine Rescue Competition (Louisville, KY; September 2005)	2005	Workshop, Seminar, or OIB	Mine disasters
<b>Design of Mine Ore Passes</b> Beus-M   Seminar lecture at the University of Utah's Spring Semester 2000 Seminar Series, Jan. 20, 2000	2000	Workshop, Seminar, or OIB	Ground control
<b>Developing Toolbox Training for Aggregate Miners</b> Boldt-CMK   Workshop at the Western TRAM Conference, Reno, NV, June 16-20, 2003	2003	Workshop, Seminar, or OIB	Surveillance and training; Traumatic injuries
<b>Dust Control for Continuous Miner and Longwall Sections</b> NIOSH   Joint MSHA/NIOSH workshops in MSHA District 8, Mount Vernon, Illinois, and Vincennes, Indiana, Oct. 4-5, 2005	2005	Workshop, Seminar, or OIB	Respiratory diseases
<b>Edgar Mine Research</b> Scott-D   Seminar at the Colorado School of Mines, Golden, CO, Nov. 18, 1999	1999	Workshop, Seminar, or OIB	Ground control
<b>Electrical Safety for Water Well Drillers</b> An invited, 90-minute workshop held at the National Ground Water Association annual meeting in Las Vegas, NV, December 12, 2004	2004	Workshop, Seminar, or OIB	Traumatic injuries
<b>Electrical Safety for Water Well Drillers</b> NIOSH   An invited, 90-minute workshop held twice at the South Atlantic Water Well Driller's Jubilee, Myrtle Beach, SC, July 30-31, 2005	2005	Workshop, Seminar, or OIB	Traumatic injuries

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<b>Ergonomic Evaluation of Mobile Equipment</b> Kittusamy-NK   IUOE Safety and Health Training Conference, NIOSH Workshop for OEs, San Diego, CA, Apr. 2004	2004	Workshop, Seminar, or OIB	Cumulative injuries
<b>Evaluating Toolbox Training for Construction and Mining</b> Boldt-CMK   NIOSH OIB, 107th annual meeting of Northwest Mining Association meeting, Dec. 2, 2001	2001	Workshop, Seminar, or OIB	Surveillance and training; Traumatic injuries
<b>Evaluating Toolbox Training for Construction and Mining: Sand and Gravel</b> Boldt-CMK   Workshop at the National Holmes Safety Association Conference, San Antonio, TX, Jun. 6-7, 2001	2001	Workshop, Seminar, or OIB	Surveillance and training; Traumatic injuries
<b>Fire Detection Technology Workshop</b> Workshop conducted for 43 participants from coal companies, sensor manufacturers, MSHA, the UMW, a university, and NIOSH (Pittsburgh Research Laboratory, Sept 4, 2003)	2003	Workshop, Seminar, or OIB	Mine disasters
<b>Fire Safety in Metal and Nonmetal Mines Workshop</b> Smith-AC   Presented at the 10th Annual Safety Seminar for Underground Stone Mines, Dec. 6-7, 2005, Louisville, KY - 58 attendees.	2005	Workshop, Seminar, or OIB	Mine disasters
<b>Frictional Ignition Open Industry Briefing</b> NIOSH   One-day seminar including presentations by NIOSH and industry equipment manufacturers (Pittsburgh, PA; 80 attendees)	1997	Workshop, Seminar, or OIB	Mine disasters
<b>Getting to Zero-The Human Side of Mining</b> NIOSH   NIOSH Open Industry Briefing, held in conjunction with the 110th annual meeting of Northwest Mining Association, Spokane, WA, Dec. 7, 2004	2004	Workshop, Seminar, or OIB	Surveillance and training
<b>Ground Control Instrumentation and Modeling Workshop: Results of Mining Case Studies</b> Seymour-B; Tesarik-D   Workshop at the National Mine Health and Safety Academy, Beaver, WV, Jun 2000	2000	Workshop, Seminar, or OIB	Ground control
<b>Ground Control Software Workshop</b> NIOSH   Held in conjunction with the Longwall USA conference in Pittsburgh, PA. The workshop featured the STOP and SHIELD programs and their application to longwall mine safety.	2003	Workshop, Seminar, or OIB	Ground control
<b>Ground Control Software Workshop</b> NIOSH   Presented by NIOSH staff in Morgantown, WV, Norton, VA and Charleston, WV. Two day hands-on computer workshops featured 8 NIOSH mine safety software packages, including STOP, CMRR, ARMPS, TGRSS, and ARBS. Total attendance: 80	2004	Workshop, Seminar, or OIB	Ground control
<b>Ground Control Training Classes for MSHA Coal Mine Inspectors</b> NIOSH   3-day course given in 8 sessions to all 400 MSHA CMI's at the National Mine Academy, Beckley, WV	1997	Workshop, Seminar, or OIB	Ground control
<b>Ground Control Training Classes for MSHA Coal Mine Inspectors</b> NIOSH   3-day course given in 8 sessions to all 400 MSHA CMI's at the National Mine Academy, Beckley, WV	1998	Workshop, Seminar, or OIB	Ground control
<b>Guidelines for the Assessment of Microbiological Contamination in Indoor Environments</b> Kittusamy-NK   NIOSH-hosted teleweb seminar sponsored by the American Industrial Hygiene Association (AIHA) and co-hosted by the Pacific Northwest Section of AIHA, Spokane, WA, 2000	2000	Workshop, Seminar, or OIB	Surveillance and training
<b>Hazardous Chemicals Found in Mining</b> Drake-P; Scott-DF   Seminar presented in Allentown, PA, Jan. 15-16, 2002	2002	Workshop, Seminar, or OIB	Surveillance and training

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<b>Hearing Conservation: the Ears Have It</b> Ingram-DK; Matetic-RJ   Workshop presented at request of the National Ground Water Association, National Ground Water Expo (Orlando, FL; December 9-12, 2003)	2003	Workshop, Seminar, or OIB	Hearing loss
<b>Hearing Safety and Machine Operation</b> Ingram-DK; Moisan-P; Hudak-R   Workshop presented at request of the New England Water Well Association, 2003 Annual Meeting (Marlborough, MA; March 21-22, 2003)	2003	Workshop, Seminar, or OIB	Hearing loss
<b>Hearing Safety: Water Well Drilling Industry</b> Ingram-DK   Workshop requested by the State of Ohio Environmental Protection Agency, Ohio's Annual Refresher Safety Training for the Ohio EPA Inspectors (Columbus, OH; October 22, 2003)	2003	Workshop, Seminar, or OIB	Hearing loss
<b>How to Conduct Coaching Skills Workshops</b> Mallett-L; Vaught-C; Wiehagen-W   Four seminars held in June 2005	2005	Workshop, Seminar, or OIB	Surveillance and training
<b>Incorporating the Exposure Assessment Process into a Risk Ranking and Management Framework</b> NIOSH-SRL hosted teleweb seminar sponsored by the American Industrial Hygiene Association (AIHA) and co-hosted by the Pacific Northwest Section of AIHA, Spokane, WA, 2002	2002	Workshop, Seminar, or OIB	Surveillance and training
<b>International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions</b> NIOSH; ASTM; NFPA; Warsaw University of Technology; Committee for Thermodynamics and Combustion of the Polish Academy of Sciences   Five-day symposium. Two proceedings volumes were published and 36 papers were later published in peer-reviewed journals (Schaumburg, IL; 100 attendees from 13 countries)	1998	Workshop, Seminar, or OIB	Mine disasters
<b>International Workshop on Coal Mine Roof Support</b> NIOSH   Held in Morgantown, WV, in conjunction with the 19th International Conference on Ground Control in Mining.	2000	Workshop, Seminar, or OIB	Ground control
<b>Investigation of Electromagnetic Emissions in an Underground Mine</b> Scott-DF   Seminar at University of Arizona, Tucson, AZ, May 2004	2004	Workshop, Seminar, or OIB	Ground control
<b>Joint NIOSH/MSHA Mine Fire Control Seminar</b> NIOSH; MSHA   MSHA National Health and Safety Academy (Beaver, West Virginia; June 14, 2000)	2002	Workshop, Seminar, or OIB	Mine disasters
<b>Joint UMWA/NIOSH Fire Preparedness Workshop</b> UMWA; NIOSH   Two workshops, MSHA National Mine Health and Safety Academy, (Sept. 18-19 and October 8-9)	2002	Workshop, Seminar, or OIB	Mine disasters
<b>Joint Western Training Needs Assessment Seminar</b> Co-sponsored with the Colorado School of Mines, Golden, CO, Jul. 23-26, 2001	2001	Workshop, Seminar, or OIB	Surveillance and training
<b>LaModel and CMRR Workshop</b> NIOSH   Held in conjunction with the 18th International Conference on Ground Control in Mining. 57 Attendees.	1999	Workshop, Seminar, or OIB	Ground control
<b>Massey Ground Control Short Course</b> NIOSH   Requested by the Chief Operating Officer of Massey. Covered roof characterization, horizontal stress, pillar design, and roof support, as well as hands-on computer training with an array of NIOSH ground control software packages including ALPS, ARBS, STOP, AHSEM, and the CMRR.	2002	Workshop, Seminar, or OIB	Ground control
<b>Mine Fire Detection Technology Workshop</b> NIOSH   Pittsburgh Research Laboratory; Pittsburgh, PA; Sept 4, 2003	2003	Workshop, Seminar, or OIB	Mine disasters
<b>Mine Fire Preparedness Briefing</b> NIOSH   Presented for Pennsylvania mine rescue teams, Lake Lynn Laboratory; July 31, 1996	1996	Workshop, Seminar, or OIB	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Mine Fire Preparedness Open Industry Briefing</b> NIOSH   Two OIBs presented at Lake Lynn Laboratory (May 14-15, 1996 and Jun 11-12, 1996)	1996	Workshop, Seminar, or OIB	Mine disasters
<b>Mine Fire Preparedness Open Industry Briefing</b> NIOSH   Two OIBs presented at Lake Lynn Laboratory (Jun 9-11, 1998 and Sep 1-3, 1998)	1998	Workshop, Seminar, or OIB	Mine disasters
<b>Mine Fire Preparedness Open Industry Briefing</b> NIOSH   Two OIBs presented at Lake Lynn Laboratory (May 25-27, 1999 and Aug 31-Sept 2, 1999)	1999	Workshop, Seminar, or OIB	Mine disasters
<b>Mining Hearing Loss Prevention Workshop</b> NIOSH   Hosted by NIOSH-PRL, Charleston, WV; June 21-22, 2005	2005	Workshop, Seminar, or OIB	Hearing loss
<b>MSD Risk Factor Awareness Train-the-Trainer</b> NIOSH   Module presented to safety and health representatives of US Silica, Berkeley Springs, WV, October 2005	2005	Training	Cumulative injuries
<b>MSHA/NIOSH Technology Transfer Seminar</b> NIOSH   Six hours of presentations on various ground control related topics. These presentations were given in Pikeville, Kentucky and Norton, Virginia. Approx. 140 attendees.	1999	Workshop, Seminar, or OIB	Ground control
<b>MSHA/NIOSH Workshop on Diesel Engine Emission Control</b> Bugarski-A   NIOSH Stone Seminar, Dec. 6-7, 2005, Louisville, KY	2005	Workshop, Seminar, or OIB	Respiratory diseases
<b>NIOSH Mine Safety and Health Training</b> NIOSH   NIOSH Open Industry Briefing, held in conjunction with the 106th annual meeting of Northwest Mining Association,, Spokane, WA, Dec. 2000	2000	Workshop, Seminar, or OIB	Surveillance and training
<b>NIOSH Open Industry Briefing</b> NIOSH   Held in conjunction with the 107th annual meeting of Northwest Mining Association meeting, Dec. 2, 2001	2001	Workshop, Seminar, or OIB	Surveillance and training
<b>NIOSH Open Industry Briefing</b> NIOSH   Held in conjunction with the 108th annual meeting of Northwest Mining Association meeting, Spokane, WA, Nov. 2002	2002	Workshop, Seminar, or OIB	Surveillance and training
<b>NIOSH Open Industry Briefing</b> NIOSH   Co-sponsored with the Western Mining Research Center (WMRC) of the Colorado School of Mines and held in conjunction with the 109th annual meeting of Northwest Mining Association, Spokane, WA, Dec. 2, 2003	2003	Workshop, Seminar, or OIB	Surveillance and training
<b>Noise and Dust Hazards Associated with Water Well Drilling</b> Ingram-DK; Matetic-RJ   Workshop presented at request of New York's State Water Well Association, New York Water Well 2002 Annual Conference (Albany, NY; April 18-21, 2002)	2002	Workshop, Seminar, or OIB	Hearing loss
<b>Noise Health Hazards and How to Avoid Them</b> Ingram-DK; Matetic-RJ   Workshop presented at request of the Minnesota Water Well Association, Minnesota Water Well Association's 79th Annual Convention (St. Cloud, MN; January 29, 2001)	2001	Workshop, Seminar, or OIB	Hearing loss
<b>Open Forum on Frictional Ignition and Dust Explosions</b> NIOSH   Presented for the Pennsylvania Department of Environmental Protection, Bureau of Deep Mine Safety (Pittsburgh, PA; 25 attendees)	1999	Workshop, Seminar, or OIB	Mine disasters
<b>Open Forum on Frictional Ignition, Methane, and Ventilation</b> NIOSH   Presented for RAG Emerald Mine personnel (Pittsburgh, PA; 10 attendees)	2004	Workshop, Seminar, or OIB	Mine disasters

Title	Year	Output Type	Strategic Goal
<b>Open Industry Briefing</b> NIOSH   For all Bituminous Division staff. Included a 1 hr talk at the Quaterly Bituminuous Information Meeting on "Tailgate Support for Longwall Mining and the STOP Program"; and, a 1 hour talk at the Quaterly Anthracite Informational Meeting on the "Overview of NIOSH Mining Health and Safety Research." Approx. 100 attendees.	2001	Workshop, Seminar, or OIB	Ground control
<b>Open Industry Briefing on New Technology for Ground Control in Retreat Mining</b> NIOSH   Seminars held in Uniontown, PA; Norton, VA; Pikeville, KY; Charleston, WV; and Evansville, IN. Total attendance: 300.	1997	Workshop, Seminar, or OIB	Ground control
<b>Open Industry Briefings on New Technology for Coal Mine Roof Support</b> NIOSH   Seminars held in Washington, PA; Uniontown, PA; Norton, VA; Beckley, WV, Charleston, WV; Tuscaloosa, AL; Evansville, IN; Price, UT; and Glenwood Springs, CO.	2000	Workshop, Seminar, or OIB	Ground control
<b>Open Industry Briefings on New Technology for Coal Mine Roof Support</b> NIOSH   Seminars held in Washington, PA; Uniontown, PA; Norton, VA; Beckley, WV, Charleston, WV; Tuscaloosa, AL; Evansville, IN; Price, UT; and Glenwood Springs, CO.	2001	Workshop, Seminar, or OIB	Ground control
<b>Open Industry Briefings on NIOSH Ground Control Software</b> NIOSH   Series of 2-Day hands-on training seminars held in Morgantown, WV; Norton, VA; Beckley, WV, Charleston, WV; Tuscaloosa, AL; Evansville, IN; Grand Junction, CO.	2002	Workshop, Seminar, or OIB	Ground control
<b>Open Industry Briefings on NIOSH Ground Control Software</b> NIOSH   Series of 2-Day hands-on training seminars held in Morgantown, WV; Norton, VA; Beckley, WV, Charleston, WV; Tuscaloosa, AL; Evansville, IN; Grand Junction, CO.	2003	Workshop, Seminar, or OIB	Ground control
<b>Open Industry Briefings on NIOSH Ground Control Software</b> Series of 2-Day hands-on training seminars held in Morgantown, WV; Norton, VA; Beckley, WV, Charleston, WV; Tuscaloosa, AL; Evansville, IN; Grand Junction, CO.	2004	Workshop, Seminar, or OIB	Ground control
<b>Open Industry Forum on Frictional Ignition</b> NIOSH   One-day forum including presentations by NIOSH staff, equipment manufacturers, mining companies, and university researchers (Pittsburgh, PA; 60 attendees, including participants from mining companies, equipment manufacturers, MSHA, and universities)	1997	Workshop, Seminar, or OIB	Mine disasters
<b>Ore Pass Analysis and Design Workshop</b> Co-sponsored by the Western Mining Research Center (WNRC), Golden, CO, Spokane, WA, Dec. 2, 2003	2003	Workshop, Seminar, or OIB	Ground control
<b>Programmable Electronic Mining Systems (PEMS): Best Practice Recommendations</b> Sammarco-JJ; Jobes-C   Joint NIOSH/MSHA Workshop (Sept. 26, 2002; Triadelphia, WV)	2002	Workshop, Seminar, or OIB	Traumatic injuries
<b>Programmable Electronic Mining Systems: An Introduction to Safety</b> Sammarco-JJ; Mowrey-G; Jobes-C; Welsh-J   Joint NIOSH/MSHA Workshop (Aug 17, 1999; Triadelphia, WV)	1999	Workshop, Seminar, or OIB	Traumatic injuries
<b>PROP Workshops for MSHA</b> NIOSH   Co-developed 1-day seminars sponsored by different MSHA Districts and given in 9 coalfield locations.	2000	Workshop, Seminar, or OIB	Ground control
<b>PROP Workshops for MSHA</b> NIOSH   Co-developed 1-day seminars sponsored by different MSHA Districts and given in 9 coalfield locations.	2001	Workshop, Seminar, or OIB	Ground control
<b>Proximity Warning Systems for Underground and Surface Mining</b> NIOSH   Open Industry Briefing (Aug 9, 2005; Pittsburgh, PA). Approximately 125 attendees from government (MSHA), industry, labor, and academia	2005	Workshop, Seminar, or OIB	Traumatic injuries
<b>Recognizing Noise and Dust Health Hazards for the Water Well Driller</b> Ingram-DK; Matetic-RJ   Workshop at the 46th Annual South Atlantic Well Drillers Jubilee (Myrtle Beach, SC; July 28-31, 2001)	2001	Workshop, Seminar, or OIB	Hearing loss



Title	Year	Output Type	Strategic Goal
<b>Recognizing Noise and Dust Health Hazards for the Water Well Drilling Industry</b> Ingram-DK; Matetic-RJ   Workshop presented at request of the National Ground Water Association, National Convention and Exposition (Las Vegas, NV; December 13-15, 2000)	2000	Workshop, Seminar, or OIB	Hearing loss
<b>Roof Control Seminar</b> MSHA; NIOSH   This 2 day seminar was designed to update mining personnel on new roof control products, methods and ground control design. Held at the Beckley Academy in Beckley, WV	2005	Workshop, Seminar, or OIB	Ground control
<b>Safety Recommendations for Programmable Electronics in Mining</b> Sammarco-JJ   NMA Workshop (St. Louis, MO)	1998	Workshop, Seminar, or OIB	Traumatic injuries
<b>Safety Recommendations for Programmable Electronics in Mining</b> Sammarco-JJ   NMA Workshops (Denver, CO and St. Louis, MO)	1999	Workshop, Seminar, or OIB	Traumatic injuries
<b>SEALBARR '99</b> Central Mining Institute (Katowice, Poland) and NIOSH   Two-day seminar with published proceedings held to promote international technology transfer of mine seals and barriers for controlling mine explosions (Katowice, Poland; 57 attendees from 7 countries)	1999	Workshop, Seminar, or OIB	Mine disasters
<b>Second International Workshop on Coal Pillar Mechanics and Design</b> NIOSH   Held in Golden, CO, as part of the 37th U.S. Symposium on Rock Mechanics. Chairman, developed international list of authors, and co-edited Proceedings.	1999	Workshop, Seminar, or OIB	Ground control
<b>Seismic Tomography and Work at the Edgar Mine</b> Scott-D   Seminar at the Colorado School of Mines, Golden, CO, Nov. 12, 1998	1998	Workshop, Seminar, or OIB	Ground control
<b>Seminar on Trenching Fatalities</b> Coleman-P   Presented at the 12th Annual Construction Safety and Health Conference and Exposition in Chicago, IL, May 21-23, 2002	2002	Workshop, Seminar, or OIB	Surveillance and training
<b>Short Courses on the Coal Mine Roof Rating</b> NIOSH   Open Industry Briefings in Beckley, WV and Morgantown, WV; and industry short courses for Consol Research (Library, PA), and Cape Breton Development Co. (Nova Scotia, Canada).	1997	Workshop, Seminar, or OIB	Ground control
<b>Short Courses on the Coal Mine Roof Rating</b> NIOSH   Open Industry Briefings in Beckley, WV and Morgantown, WV; and industry short courses for Consol Research (Library, PA), and Cape Breton Development Co. (Nova Scotia, Canada).	1998	Workshop, Seminar, or OIB	Ground control
<b>Slope Stability Bench Design</b> Miller-S; Whyatt-J; Girard-J   4-hour workshop during the Mining Expo in Elko, NV, Jun. 15, 2001	2001	Workshop, Seminar, or OIB	Ground control
<b>Summary of Noise Hazards and Engineering Applications to Reduce Noise Hazards</b> Ingram-DK; Yantek-DS   Workshop presented at request of the National Ground Water Association, National Ground Water Expo (Las Vegas, NV; December 8-12, 2002)	2002	Workshop, Seminar, or OIB	Hearing loss
<b>The Use of Rock Mechanics Instrumentation and Numeric Modeling on SRL Backfill Research Studies</b> Seymour-B; Tesarik-D   Seminar lecture at the University of Arizona, May, 2000	2000	Workshop, Seminar, or OIB	Ground control
<b>The Winds of Change</b> NIOSH   NIOSH Open Industry Briefing, held in conjunction with the 104th annual meeting of Northwest Mining Association, Spokane, WA, Dec. 1, 1998	1998	Workshop, Seminar, or OIB	Surveillance and training
<b>Underground Coal Mine Fire Prevention Workshop</b> NIOSH   Seven workshops conducted in Big Stone Gap, VA (Mar 7), Richlands, VA (Mar 9), Carlinville, IL (May 9), Evansville, IN (May 11), Beaver, WV (June 8), Grand Junction, CO (Oct 31), and Price, UT (Nov 2)	2000	Workshop, Seminar, or OIB	Mine disasters

Title	Year	Output Type	Strategic Goal
Underground Coal Mine Fire Prevention Workshops NIOSH   Holiday Inn, Meadowlands, PA; Oct 7, 1999	1999	Workshop, Seminar, or OIB	Mine disasters
Underground Smoke Evacuation Workshop Conducted at the MSHA Academy as part of TRAM 20004 (October 2004)	2004	Workshop, Seminar, or OIB	Mine disasters
Use of Seismic Tomography in Mining Scott-D   Seminar at the Colorado School of Mines, Golden, CO, on Nov. 13, 1997	1997	Workshop, Seminar, or OIB	Ground control
Workshop at Martin-Marietta Minerals Supervisors annual retreat Cullen-ET   Charleston, SC, Mar. 8-9, 2005	2005	Workshop, Seminar, or OIB	Surveillance and training
Workshop on Diesel Emissions Control Technologies in Coal Mines NIOSH   NIOSH-sponsored workshop, Louisville, KY (July 30, 2003)	2003	Workshop, Seminar, or OIB	Respiratory diseases
Workshop on Diesel Emissions Control Technologies in Metal/Nonmetal Mines NIOSH   NIOSH-sponsored workshop, Cincinnati, OH (February 27, 2003), Salt Lake City, UT (March 4, 2003)	2003	Workshop, Seminar, or OIB	Respiratory diseases
Workshop on Extreme Exposure Safety Hintz-P   Held at the Mine Safety Trainers Workshop, National Mine Health and Safety Academy, Beaver, WV, Oct. 2003	2003	Workshop, Seminar, or OIB	Surveillance and training
Wyoming Mining Association seminar Mainiero-RJ   Assisted Wyoming Mining Association in preparing seminar for industry experts and federal regulators, including the US EPA, on blasting techniques and nitrous oxide gases (Jan 2000)	2000	Workshop, Seminar, or OIB	Traumatic injuries

## Outputs Summary

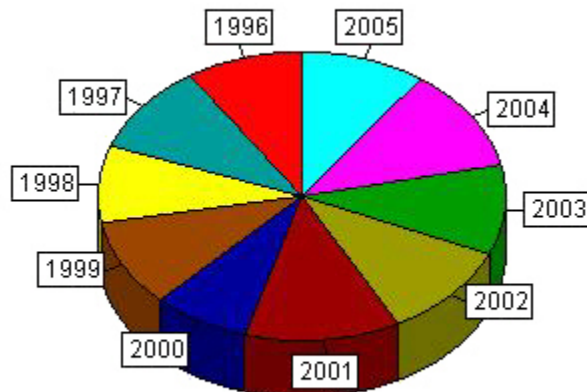
### Total Outputs: 1428

Note - Strategic Goal percentage totals may not equal 100% due to Outputs being associated with multiple Strategic Goals. Also, other percentage totals may not equal 100% due to rounding errors.

Strategic Goals	N	%
□ Multiple Goals	35	2.5
■ Cumulative injuries	85	6
■ Ground control	422	29.6
■ Hearing loss	67	4.7
■ Mine disasters	236	16.5
■ Respiratory diseases	205	14.4
■ Surveillance and training	228	16
■ Traumatic injuries	284	19.9



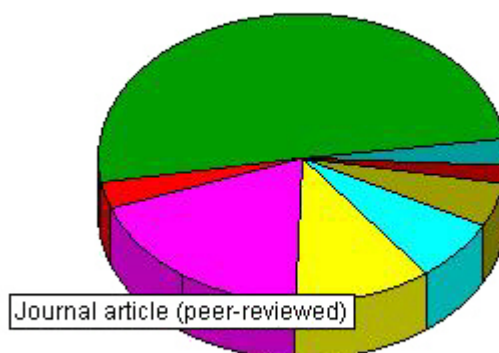
Year	N	%
■ 1996	132	9.2
■ 1997	144	10.1
■ 1998	123	8.6
■ 1999	140	9.8
■ 2000	110	7.7
■ 2001	176	12.3
■ 2002	152	10.6
■ 2003	143	10
■ 2004	166	11.6
■ 2005	142	9.9



Output Types	N	%
Patent	15	1.1
Publication	1175	82.3
Publication (guidelines)	25	1.8
Software	18	1.3
Standards	6	0.4
Training	18	1.3
Video	20	1.4
Web document	40	2.8
Workshop, Seminar, or OIB	111	7.8



Publication Type	N	%
Book/book chapter/dissertation	20	1.7
Brochure-flyer	31	2.6
Conference proceedings	615	51.3
Hazard Controls/IDs	6	0.5
Journal article (not peer-reviewed)	33	2.8
Journal article (peer-reviewed)	228	19
NIOSH/USBM numbered	129	10.8
Other	80	6.7
Technology News	58	4.8



## How Outputs are Categorized

Outputs are externally-distributed publications and products developed by the NIOSH Mining program from 1996 to present. These include outputs developed by the U.S. Bureau of Mines (USBM) and Department of Energy (DOE) prior to the transfer of the Mining Health and Safety Research Program to NIOSH in 1997. The following taxonomies are used to categorize these outputs:

### Strategic Goal

Outputs are categorized according to the Strategic Goal (see Section 1.5) addressed by the research:

- **Respiratory diseases** - Reduce respiratory diseases in miners by reducing health hazards in the workplace associated with coal worker pneumoconiosis, silicosis, and diesel emissions.
- **Hearing loss** - Reduce noise-induced hearing loss (NIHL) in the mining industry.
- **Cumulative injuries** - Reduce repetitive/cumulative musculoskeletal injuries in mine workers.
- **Traumatic injuries** - Reduce traumatic injuries in the mining workplace.
- **Mine disasters** - Reduce the risk of mine disasters (fires, explosions, and inundations); and minimize the risk to, and enhance the safety and effectiveness of, emergency responders.
- **Ground control** - Reduce ground failure fatalities and injuries in the mining industry.
- **Surveillance and training** - Determine the impact of changing mining conditions, new and emerging technologies, and the changing patterns of work on worker health and safety.
- **All** - Outputs related to all strategic goals of the Mining Research Plan. This includes technology transfer / health communications efforts and mining research program planning and tracking.

### Output Type

Outputs are also categorized by Output Type:

- **Patent** - A U.S. or foreign patent granted for a NIOSH invention.
- **Publication** - An officially-published document (excludes Web documents).
- **Publication (guidelines)** - A publication that recommends a policy or procedure.
- **Web document** - A document developed solely for Web distribution that has not been officially published and is currently available on the NIOSH Mining Safety and Health Research web site (obsolete web documents are not listed.)
- **Software** - A computer program.
- **Standards** - Recommended rules or guidelines for conducting an activity or task, utilizing a product, etc. that are approved by a recognized standards organization or accepted as a de facto standard by the industry.
- **Training** - An educational material comprising an instructor's guide with tested educational materials and supporting documents designed to meet stated educational objectives (Note - if published as a government numbered document, a training material is instead classified as a Publication.)

- **Video** - A videocassette, videotape, or electronic video.
- **Workshop/Seminar/OIB** - An event organized by the NIOSH Mining program, usually to educate the mining industry on particular safety and health issues or research developments.

## Publication Type

All publications (outputs with an Output Type of Publication or Publication (guidelines)) are further classified by the specific type of publication.

Published by NIOSH/USBM/DOE:

- **Hazard Controls/IDs** - Hazard Controls describe control techniques to reduce hazardous exposures to workers in a particular application/industry process. Hazard IDs summarize results of NIOSH studies at a specific worksite, identify new or current health and safety hazards, and offer the best recommendations for control or prevention. Both are brief, 1-2 page documents.
- **Technology News** - One-page flyers used to announce a milestone in mining health and safety research, technology ready for transfer to industry, or an opportunity for cooperative research and development.
- **NIOSH/USBM numbered** - Documents published by DHHS (NIOSH), DOE, or the USBM, including Information Circulars (ICs), Reports of Investigation (RIs), Special Publications, and other numbered publications.

Published by external sources:

- **Book/book chapter/dissertation** - Includes PhD dissertations; however, masters theses are classified as Other.
- **Conference proceedings** - Papers published in conference proceedings in either print or electronic format (e.g., CD-ROM).
- **Journal article (peer-reviewed)** - Papers published in journals that have undergone a blind peer-review.
- **Journal article (not peer-reviewed)** - Papers published in journals that have not undergone a blind peer-review.

Published by both NIOSH/DOE/USBM and external sources:

- **Brochure/flyer** - Includes pamphlets, brochures, and flyers. Also includes NIOSH Fact Sheets with surveillance data on fatalities, injuries, and illnesses for various mining commodities.
- **Other** - Other publications not elsewhere classified. Includes contract and MOA reports, MSHA reports, masters theses, bulletins, newsletters, newsletter articles, etc.